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ILLUSTRATED CATALOGUE

Mrought and Cast Aron Lipe,

STEAM AND GAS PIPE FITTINGS,

BRASS AND IRON STEAM VALVES AND COCKS,

TOOLS, SUPPLIES,

AND OTHER ARTICLES INCIDENTAL TO

Steam and Gas Engineering,

AND

HOT WATER AND STEAM HEATING,

MANUFACTURED BY THE

WALWORTH MANUFACTURING COMPANY,

No. 69 KILBY STREET,

BOSTON.

BOSTON:
GUNN, BLISS & CO., PRINTERS, 31 HAWLEY STREET.
1878.

PREFACE.

WE beg to present to our friends and the public a new Illustrated Catalogue of the various descriptions of Goods manufactured and sold by us.

An experience of thirty-six years in our business, and unrivalled facilities for manufacturing, enable us to offer our customers Goods of superior style and quality, and to give mature and judicious Engineering and Mechanical advice (for which we make no charge) in the planning and execution of work.

Having Iron and Brass Foundries of our own, in connection with our Machine Shops, we claim to have facilities for executing all kinds of Work, unsurpassed by those of any other establishment in the country.

We would call the attention of our friends to the fact that we are the originators of the plan of Warming Buildings, Drying Rooms, etc., by Steam, through the use of Wrought Iron Pipes. Our experience in this department has enabled us to bring our apparatus to a high state of perfection. We have applied this mode of warming to more than four thousand buildings, and with uniform success.

It is our purpose to spare no exertion to maintain our reputation, and to continue to deserve the approbation of our customers.

The following List is a Catalogue of our manufactured articles. We are also prepared to furnish any article in our line, either of Iron or Brass, of any peculiar shape or design, and respectfully solicit such orders.

WALWORTH MANUFACTURING CO.

J. J. WALWORTH, President.

C. C. WALWORTH, Vice-President.

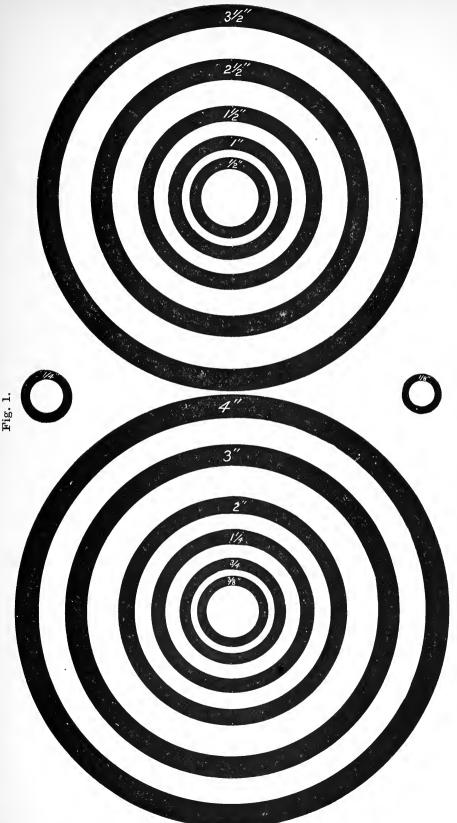
E. C. HAMMER, Treasurer.

BOSTON, May 1, 1878.

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SHOWING INSIDE AND OUTSIDE DIAMETER.

EXTRA STRONG WROUGHT IRON WELDED TUBES.

STANDARD SIZES.

3/8 EXTRA STRONG.

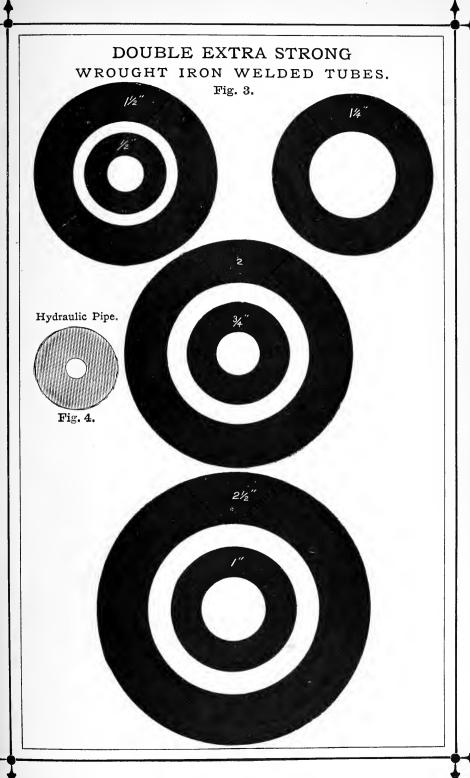
Fig. 2.

1/8 EXTRA STRONG.



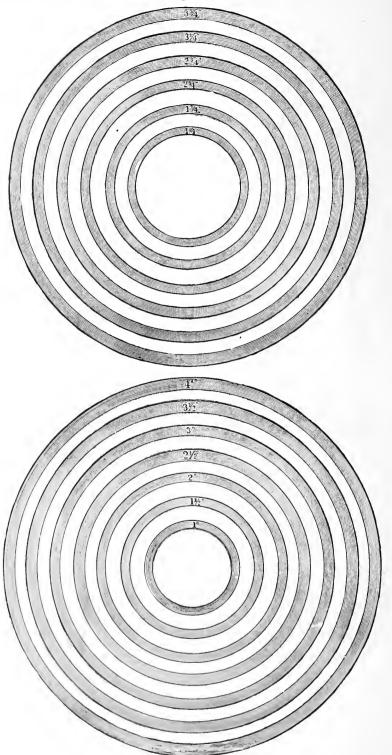






BOILER FLUES.

Fig. 5.



Showing the inside and outside diameter.

FITTINGS FOR WROUGHT IRON PIPE.

ELBOWS.

Fig. 6.



Mall. Steam.

Fig. 7.



Mall, Gas.

Fig. 8.



Cast Iron.

Fig. 9.



45°

TEES.

Fig. 10.



Side Outlet.

Fig. 11.



Mall, Steam.

Fig. 12.



Mall. Gas.

Fig. 13.



Cast Iron.

CROSSES.

Fig. 14.



Mall. Steam.

Fig. 15.



Mall. Gas.

Fig. 16.



Cast Iron.

Y or LATERAL BRANCH. RETURN BENDS.

Fig. 17.



Fig. 18.



Close.

Fig. 19.



Open.

R. & L.

COUPLINGS.

BUSHINGS.

Fig. 20.





NIPPLES.

Fig. 22.



Fig. 23.

Fig. 24.



Short.





REDUCING COUPLINGS.

Fig. 25.



R. Hand COUPLINGS.

Fig. 26.



CAPS.

Fig. 27.



PLUGS.

Fig. 28.



LOCKNUTS.

Fig. 29.



W. I. HOOKS.

Fig. 30.



STRAPS.

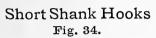
SHEET IRON, TINNED.

Fig. 32.

Malleable Iron, Tinned. Fig. 31.



Offsetts.







Service Bends Fig. 36.

Beam Hooks.

Street Elbows. Fig. 37.

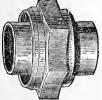




Malleable Iron Unions. Flange Unions.

Fig. 38. With Bolts and Nuts.

Fig. 39.

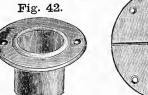




Flanges. Fig. 40.



Floor Flanges, WHOLE. Fig. 42.



Floor Flanges, IN HALVES. Fig. 43.

Flange Curved. Fig. 41.



BRANCH TEES.

HOOK PLATES.

Fig. 44.

Fig. 45.



EXPANSION PLATES.

RING PLATES.



Fig. 47.

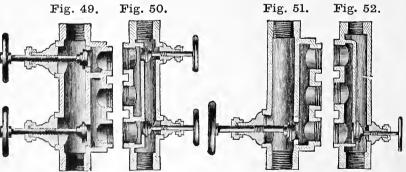


COIL STAND.

Fig. 48.



C. C. WALWORTH'S PATENT MANIFOLD, Or BRANCH TEE.



Nos. 1 & 2, Supply.

Nos. 4 & 5, Return.

No. 3, Supply.

No. 6, Return.

This improvement combines the Main Pipe, Manifold and Valve in *one nitting*, dispensing with several fittings and the necessary joints and labor.

It is very easily repaired, and has the advantage of controlling the circulation through a portion or all of the radiating pipes, as the temperature may require.

IRON STEAM COCKS.

Fig. 53.

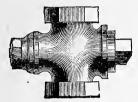


Fig. 54.



Three Way.

STEAM VALVES, IRON BODIES, BRASS MOUNTED.

GLOBE AND ANGLE VALVES .- Screwed.

Fig. 55.

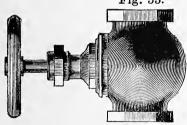


Fig. 56.

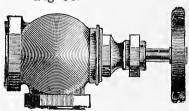
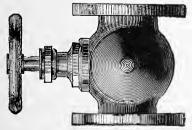
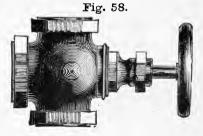


Fig. 57.



FLANGED.

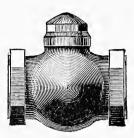
CROSS VALVE.

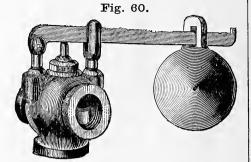


IRON CHECK VALVES.

SAFETY VALVES.

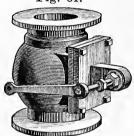
Fig. 59.





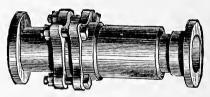
BACK PRESSURE VALVES.

Fig. 61.



IRON EXPANSION JOINTS.

Fig. 62.



FLANGED.

FOOT VALVES.

Fig. 63.



Fig. 64.



Fig. 65.

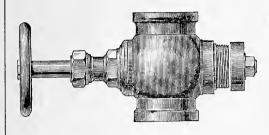


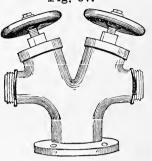
HYDRANT GLOBE VALVES.

Fig. 66.

DOUBLE VALVE HYDRANT.

Fig. 67.





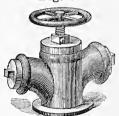
HYDRANTS.

Fig. 68.



21/2 Single Outlet.

Fig. 69.



21/2 Double Outlet.

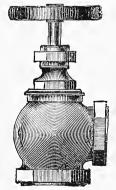
BRASS GLOBE and ANGLE VALVES.

Fig. 70.

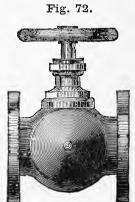


Globe.

Fig. 71.



Angle.

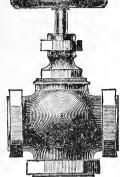


Globe Flanged.

BRASS VALVES, COCKS, &c.

CROSS VALVES.





GLOBE CHECK. UPRIGHT CHECK.

Fig. 74.

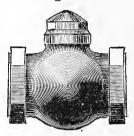


Fig. 75.



ANGLE CHECK. REGULATOR. VACUUM VALVES.

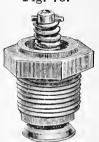
Fig. 76.



Fig. 77.

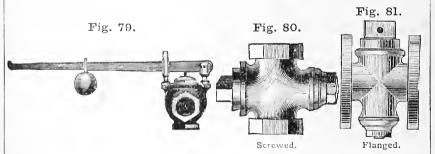


Fig. 78.



SAFETY VALVES.

BRASS STEAM COCKS.

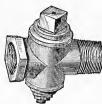


Three-Way Cocks. Brass Gas Cocks.

Fig. 82.



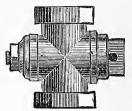
Fig. 83.



Male and Female.

Fig. 88.

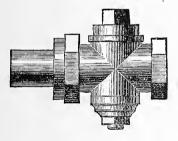
Fig. 84.



Female.

Union Gas Cocks.

Fig. 85.



Brass Air Cocks.

Fig. 86.



UNION

Cylinder Cocks. Union Joints. Soldering Unions.

Fig. 87.

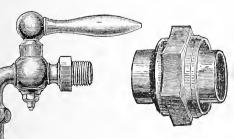
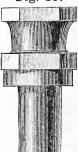


Fig. 89.



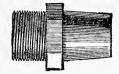
SOLDERING NIPPLES.

Fig. 90.

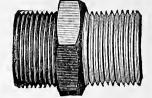
Fig. 91.

HOSE NIPPLES.

Fig. 92.







Female.

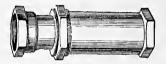
HOSE COUPLINGS.

Fig. 93.



EXPANSION JOINTS.

Fig. 94.



BRASS CAPS. PLUGS. COUPLINGS. NIPPLES.



Fig. 96.

Fig. 97.

Fig. 98.









BUSHINGS. LOCKNUTS. ELBOWS.

TEES.

Fig. 99.

Fig. 100.

Fig. 101.

Fig. 102.









CROSS. Fig. 103.



RETURN BEND.

Fig. 104.



PILLAR COCK.

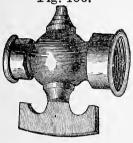


LAMP POST COCKS.

Fig. 106.

Fig. 107.

PENDANT COCKS.







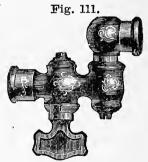
SWING JOINTS, WITH COCK.

Univ. Swing Joints.

Fig. 110. SWING JOINTS.

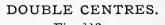


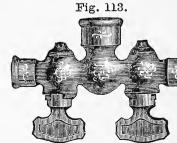


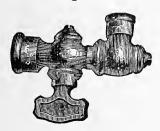


SWING PENDANT COCKS.

Fig. 112.







PLAIN OIL CUP.

Fig. 116.

BALL NOZZLE. STRAIGHT NOZZLE.

Fig. 114.

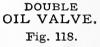


Fig. 115.

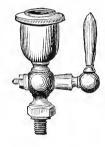


OIL CUP, with Cock.

Fig. 117.



HOLLOW PLUG OIL COCK. Fig. 119.



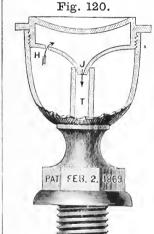
EXCELSIOR OIL CUP.

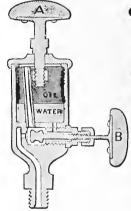


ROSS' LUBRICATOR. Fig. 121.



STORER'S LUBRICATOR. Fig. 122.







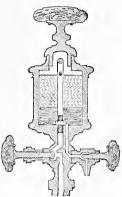
NATHAN & DREYFUS' LUBRICATORS.

Fig. 123.

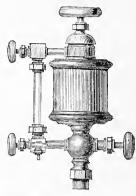
Fig. 124.



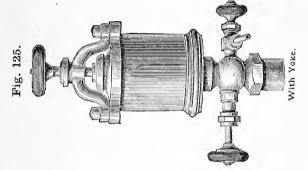
Plain, without Yoke.



Interior View.



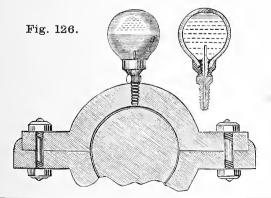
With Glass Indicator.



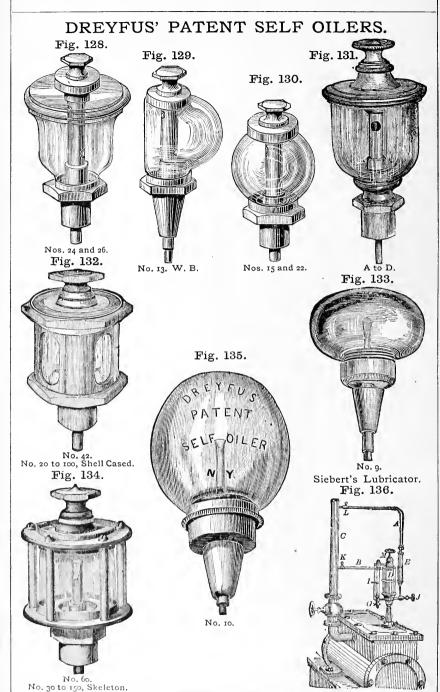
COMMON LUBRICATOR.

TAYLOR'S PATENT SELF-OILER.





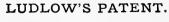




PATENT VALVES.

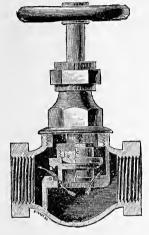
LOCKE'S PATENT.

Fig. 137.



(BRASS.)









LUDLOW'S PATENT SLIDING STOP VALVES.

(IRON.)
OLD STYLE.

Fig. 140.

3 inch Screw Socket.

NEW STYLE.

Fig. 139.

3 in. Screw Socket. Screw Top.

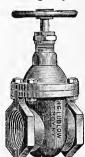




NEW STYLE.

Fig. 141.

3 in. Screw Socket. Flange Top.



We make our Valves 11/2 to 4 inch inclusive, New Style.

LUDLOW'S PATENT SLIDING STOP VALVES.

Fig. 142.

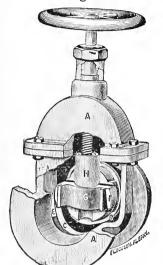


Fig. 143.

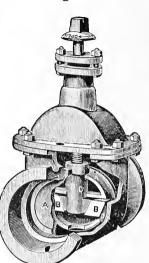
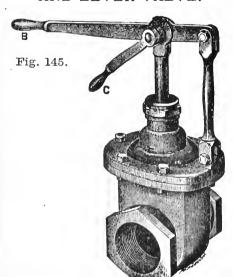


Fig. 144.



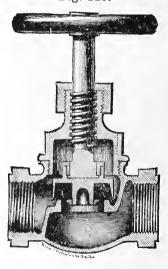
Iron Valves with Indicator, showing position of Gate.

QUICK MOVING SLIDE STEM AND LEVER VALVE.



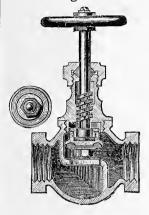
JENKINS' PATENT.

Fig. 146.



FRINKS' PATENT.

Fig. 147.



PEET'S PATENT.



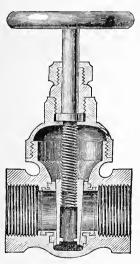
Fig. 149.



BRASS. IRON.

CHAPMAN'S PATENT.

Fig. 150.



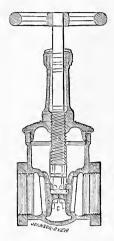


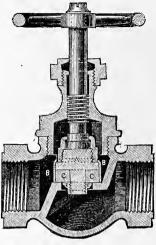
COFFIN'S PATENT.

RUSSELL'S PATENT. Fig. 152.

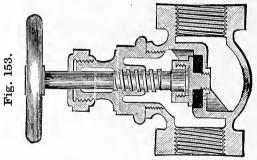
Fig. 151.



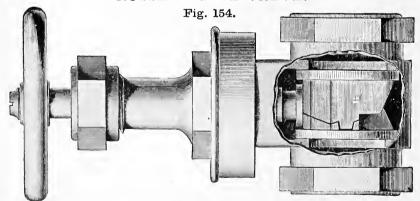




JOHNSON'S PATENT



RUSSELL GATE VALVE.



(Patent applied for.)

LEVER AND CAM VALVE. RADIATOR VALVES.

Fig. 155.

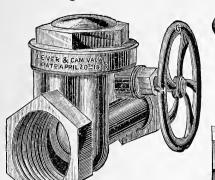
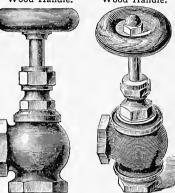
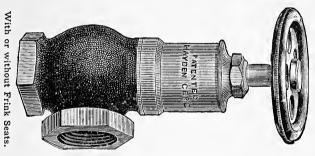


Fig. 156. Wood Handle. Fig. 157. Wood Handle.



With Frink Seats.



FAXON'S PATENT

GAUGE COCKS.

Fig. 159.

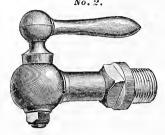


Fig. 160.

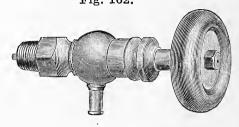


GAUGE COCKS.

Fig. 161.



ASHCROFT'S SELF-CLEANING. Fig. 162.



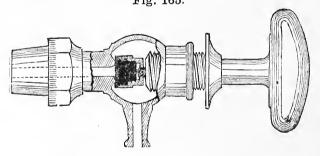
BISBEE'S PATENT.



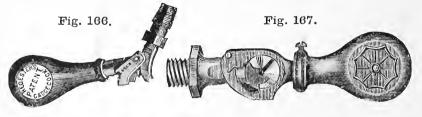
MISSISSIPPI. Fig. 164.



JENKINS' PATENT. Fig. 165.



REGESTER'S PATENT. WHEEL GAUGE COCK.



STEAM WHISTLES.

Fig. 168.

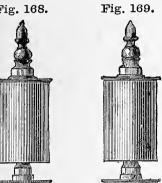


Fig. 170.



Fig. 171.

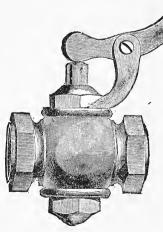






Three or more Whistles of any size, to order.

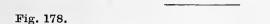




IMPROVED GLASS WATER GAUGES.

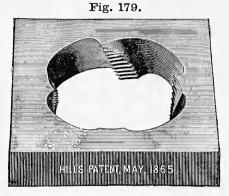
WATER GAUGE BOX. Fig. 174. Fig. 176. SCOTCH GLASS TUBES.

GAS AND STEAM FITTERS' TOOLS.



WALWORTH'S PATENT SOLID DIE PLATES.

HILL'S PATENT SOLID DIE.



DIE FRAME. Fig. 180.



TAP. Fig. 181.



COMMON PIPE TONGS.

Fig. 182.



DRILLS. Fig. 183.

REAMER. Fig. 184.

GLEASON'S PATENT SCREWING STOCKS.

Fig. 185.





Cutting 3/8, 1/2, 5/8, 3/4 and 1/8 inch Brass Pipe.

SCREWING STOCK, SOLID PLATE AND DIES.

Fig. 186.



Complete, Cutting 1/8, 1/4, 3/8 and 1/2 inch Pipe.

DEAN'S PATENT STOCK.

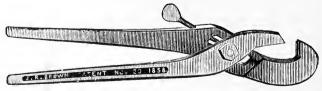
Fig. 187.



Complete, Cutting 1/8, 1/4, 3/8, 1/2, 3/4 and I inch Pipe.

BROWN'S PATENT PIPE TONGS.

Fig. 188.

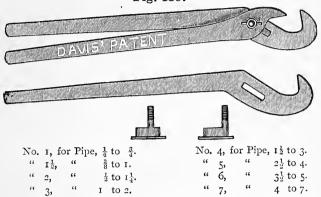


Patent extended Nov. 30, 1872.

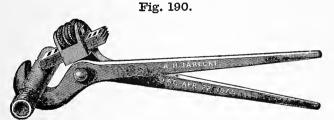
No	. г,	for Pipe,			1 to 3	No.	.4, for	Pipe,			1 1	to	3
6.6	1 ₺,	"			a to I	14	5,	41			21	to	4
**	2,	6+			to I	44	6,	4.6			3	to	5
6.6	3.	4.6			I to 2	44	77.	44			.1	to	7

DAVIS' PATENT ADJUSTABLE PIPE TONGS.

Fig. 189.



JARECKI'S ADJUSTABLE PIPE TONGS.



No. o grips gas burner to $\frac{3}{4}$. No. 3 grips $\frac{1}{2}$ to $2\frac{1}{2}$. " 1 " " to 1. " 4 " $\frac{3}{4}$ to $3\frac{1}{2}$. " 5 " $2\frac{1}{2}$ to 6.

THE BARWICK IMPROVED WRENCH, AND PIPE TONGS.

Fig. 191.



No. 0, taking from No. 7 Wire to ½ inch Pipe.

" 1, " Gas Burner to ¾ "

" 2, " ½ Pipe, to 1¼ "

" 3, " 1 " to 2 "

" 4, " 1½ " to 3 "

" 5, " 2½ " to 4 "

STILLSON'S PATENT WRENCH.

Fig. 192.



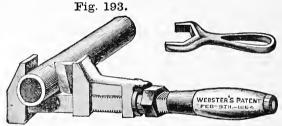
Pipe is not crushed by its use.

The Fine Tooth Wrench is especially adapted for Connecting Steam and Gas Pipes. Ten inch and above have Double Spring. The Coarse Tooth Wrench is better adapted for Bolts, Nuts, Studs, &c.

Length open in inches.	6	8	10	1.4	18	24	36	48
Takes from	to	to	to	to	to	¼ in. wire to ½ in. pipe.	to	to
Price	1.75	2.00	2.25	3.00	4.00	6.00	12.00	18.00

The Six Inch Wrench, with Screw Driver attachment on end of handle, \$2.12. Nickle Plated, 37 cts. extra.

WEBSTER'S PAT. COMBINED WRENCH, PIPE WRENCH AND PIPE CUTTER.



 12 inch, with Tools for Pipe, $\frac{1}{16}$ to $\frac{3}{4}$.

 15 " " $\frac{1}{16}$ to $1\frac{1}{2}$.

 18 " " $\frac{1}{16}$ to 2.

 21 " " $\frac{1}{16}$ to $2\frac{1}{2}$.

BAXTER'S ADJUSTABLE "S" WRENCHES.

Fig. 194.



Size, 4, 6, 8, 10, 12, 15, inches.

ROBBINS' PATENT PIPE WRENCH.

Fig. 195.



Size 2, Length of Lever, 27 inches. Size of Pipe adapted to, 1 to 2 inches.

" 3, " " 3 feet. " " " " 1½ to 4 "

4, " 4 " " " " 2 to 6 "

" 5, " " 5 " " " " " " 2½ to 8 "

" 6, " " 6 " " " " " " 4 to 10 "

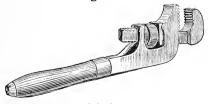
KEENAN'S WRENCH.

Fig. 196.



FOSTER'S PATENT PIPE AND BOLT WRENCH.

Fig. 197.



18 inches.

COE'S PATENT WRENCH.

Fig. 198.



Size, 6, 8, 10, 12, 15, 18, 21, inches.

BUZZELL'S BASIN WRENCH.

Fig. 199.



STANWOOD'S PATENT PIPE CUTTER.

Fig. 200.



No. 1, Case hardened, cuts $\frac{3}{4}$ to $\frac{1}{8}$ inch. " 2, " " " 2 to 1 " " 3, " " " 3 to 2 "

CUTTER WHEEL.

Fig. 201.



Nos. 1, 2, 3.

MOORE'S TRIPLE ACTION RATCHET WRENCH.

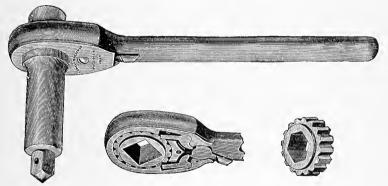
Fig. 202.



											-	-
Size,	Ι,	Square Nut,		3%,	1/2,	5/8	inch.	Hexagon	,	5/8,	3/	inch.
"	2,	"			5,8,	34	44	"	3/1	7/8,	I	"
"	3,	"	34,	$\frac{7}{8}$,	1,	118	66	"	Ι,	118,	11/4	"
46	4,	"	I 18,	$1\frac{1}{4}$,	13/8,	112	64			112,		

MOORE'S TRIPLE ACTION RATCHET DRILL.

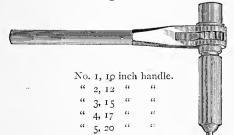
Fig. 203.



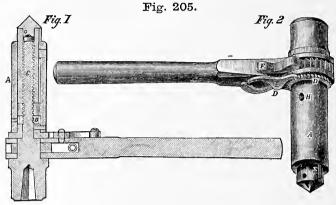
No. 1, 10 inch handle. No. 3, 15 inch handle. "2, 12 "4, 18 "

PACKER'S RATCHET DRILL.

Fig. 204.



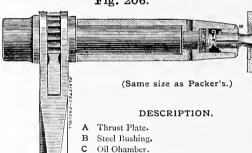
CHAPMAN'S PATENT SELF-FEEDING AND IMPROVED RATCHET DRILLS.



Size, 1, 2, 3, 4, 5. Length of handle, 10, 12, 15, 17, 20.

LAVERY'S PATENT RATCHET.

Fig. 206.



- Groove, wound with Worsted for supplying Oil, when the Ratchet is inverted.
- Is where motion takes place.
- Small oil-way by which the oil chamber is filled.

WILSON'S R. AND L. HAND WRENCH AND RATCHET.

Fig. 207.



No. 0, takes from $\frac{1}{4}$ to $\frac{3}{4}$ Nut. No. 2, takes from 114 to 2 Nut.
" 3, " " 112 to 3 "

PIPE SCREWING MACHINES.

W. D. CHASE'S

F

The machine as fitted for hand power, I he right is seen than to be the circle in the circle in

SMART SC

W. D. CHASE'S PATENT MACHINE Fig. 208.

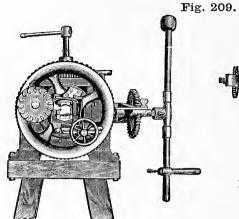
Fig. 1 shows the machine as fitted for hand power, motion being transmitted to the several parts by means of gearing, as shown; while on the right is seen the pipe-rest and pipe held stationary by the adjustable jaws of the vise, which passes through the centre of gear, the rotary motion of which is imparted to the die held in the die box. When cutting pipe, the cutting off tool has automatic feed, cutting ends of pipe square and smooth.

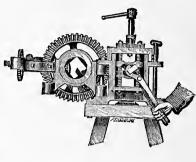
Price, \$125, which includes a full set of Collars for making Nipples. Dies, \$20, (from $\frac{1}{2}$ 8 to 2 inches) extra

Fig. 2 shows the reverse of the side shown in Fig. 1.

THE C. W. ROBERTS

Pipe Cutting and Threading Machine and Vise.



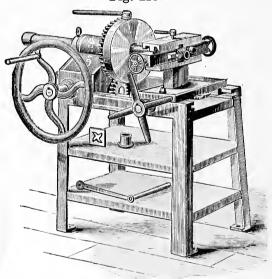


Machine, . . . \$95.00.

Dies, 1/4 to 2 inch extra.

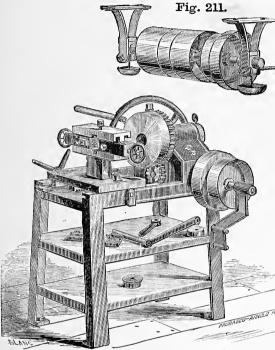
CAMDEN No. 2 HAND SCREWING MACHINE.

Fig. 210.



No. 2 Hand Screwing Machine, with Single and Double Gear, to Screw and cut off pipe from $\frac{1}{16}$ to 2 inches, inclusive, with Bushings and Solid Dies, to screw $\frac{1}{16}$, $\frac{1}{14}$, $\frac{3}{26}$, $\frac{1}{12}$, $\frac{3}{24}$, $\frac{1}{14}$, $\frac{1}{14}$, $\frac{1}{14}$ and 2 inch pipe.

CAMDEN No. 2 POWER MACHINE.

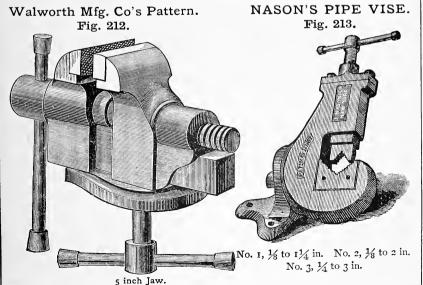


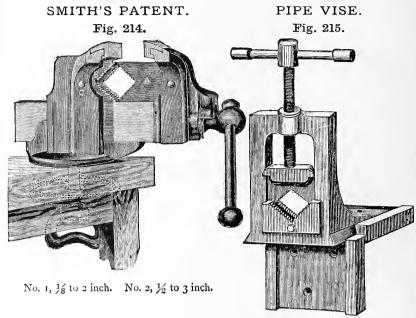
This machine being intended to work by power, is well and substantially made. The strain on Machine Cone Pulley is sustained by outside Bracket, which is well secured to frame of Machine. The Hand or Balance Wheel, shown in the cut, goes with the machine, so that it can be worked by Hand as well as Power.

It has fast and slow Gear; cuts off and screws Pipe from ½ to 2 inches, inclusive; and will be found a great improvement on any machine of this class in the market.

Complete, with Counter Shaft, Pulleys, Hangers; also, Bushings, Guides and Dies, 14, 14, 36, 12, 34, 1, 114, 112 and 2.

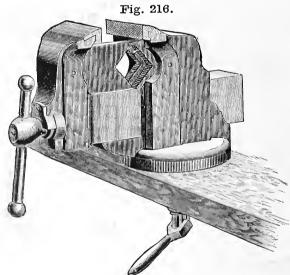
VISES.





(With Angle Plate.) No. 1, \(\frac{1}{8} \) to 2 in. No. 2, \(\frac{1}{2} \) to 3 in.

PARKER'S COMBINATION VISE.



No. 1 for 2 inch Pipe and under. No. 2 for 3 inch Pipe and under.

MALLEABLE IRON PIPE VISE. Fig. 217.



(OPEN.)

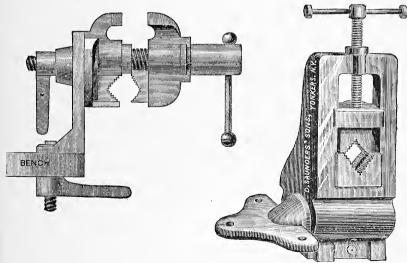
(SHUT.)

UNIVERSAL VISE.

Fig. 218.

D. SAUNDERS' SONS' IMPROVED PIPE VISE.

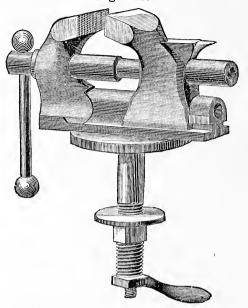
Fig. 219.



No. 1, to hold Pipe from $\frac{1}{2}$ to 2 in. diam. "2, to hold Pipe from $\frac{1}{2}$ to 3 in. diam.

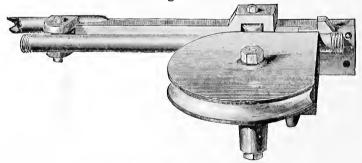
MILLERS FALLS VISE.

Union and Backus Vise Combined—Heavy or Chipping Vise. Covered Screw. ${\bf Fig.~220.}$



PIPE BENDING MACHINE.

Fig. 221.



Three sizes for 34, 1 and 114 inch Pipe.

BURNER PLYERS.

Fig. 222.



One hole, 5 and 6 inches.

Fig. 223.



Two holes, 7 inches.

GAS PLYERS.

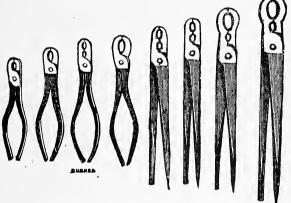
Fig. 224.



8 to 14 inch inclusive.

HUBER'S GAS PLYERS.

Fig. 225.



Number, 0, 1, 2, 3, 4, 5, 6. Length, inches, 6, 7, 8, 9, 10, 11, 12.

GAS FITTERS' AUGERS.

Fig. 226.



For all sizes Pipe, $\frac{1}{4}$ to 3 inch inclusive. In ordering Augers, state "Pipe Size."

WESTON'S PATENT DIFFERENTIAL PULLEY BLOCKS.

Fig. 227.



(No. 2, without Sprocket Wheel.)

PROSSER'S BOILER TUBE EXPANDER.

PATENT (SPRING) TUBE EXPANDER.
Fig. 228.

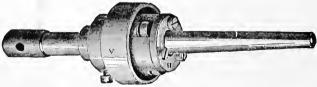


PATENT (GUIDE RING) TUBE EXPANDER. Fig. 229.



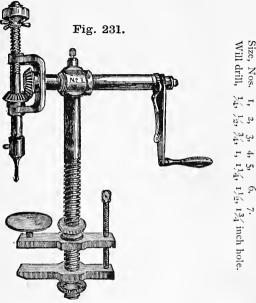
DUDGEON'S ROLLER TUBE EXPANDER.

Fig. 230.

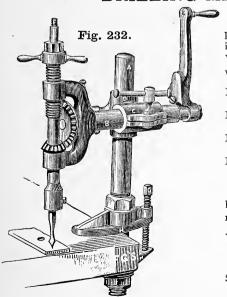


When ordering Expanders, please state thickness of Tube Plate for which they are required, and give outside diameter of the Tube.

WOODMAN'S PATENT PORTABLE DRILLER



THE IMPROVED PATENT UNIVERSAL ANGULAR AND RATCHET DRILLING MACHINE.



They will work at any angle. By placing the crank on the drill spindle, it will work with a ratchet or without. We send a chuck with each machine which will hold 1-16 to ½ inch drills.

No. 1, Weight, 26 lb. Drills up to $\frac{5}{8}$ inch hole.

No. 2, Weight, 52 lb. " " I inch hole.

No. 3, Weight, 106 lb. " " 115 inch hole.

No. 4, Weight, 52 lb. " " 112 inch hole.

The No. 4 is made of steel and malleable iron; Nos. 1, 2 and 3 are wrought, malleable and gray iron.

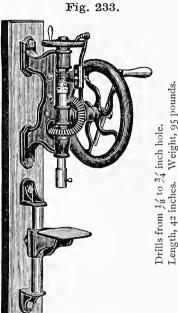
With two sets of Gear (making either speeded or geared back machine), extra, \$2.00.

Self Feed Machine, extra, \$6.00.

No. 1 UPRIGHT SELF-FEEDING DRILL. BREAST DRILL,

THE

Converted into an Upright Lever Drill.



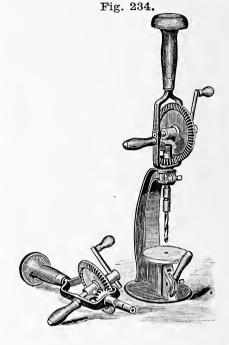


Fig. 235.



PLATFORM DRILL PRESS. ARRANGED FOR HAND OR POWER.

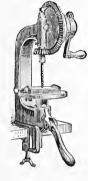
EURNISHED WITH

A THREE STEP CONE PULLEY,

Lever Feed, Cut Gear, Steel Spindle and Screws.

And in every way a first-class Machine.

Weight, 22 lbs. Drill 1/2 inch hole. With Chuck, and 6 Twist Drills, from 1-16 to 3% inches.



BREAST DRILL.

Fig. 236.

LYNAM'S PATENT RATCHET BIT BRACE.

Fig. 237.



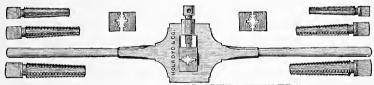
No. 1, 12 in. sweep. No. 2, 10 in. sweep.

(Double Geared.)

STOCKS AND DIES.

(BLACKSMITHS'.)

Fig. 238.



HOLROYD & CO., MANUFACTURERS.



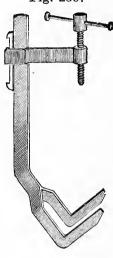
Gas Fitters' and Plumbers' Force Pump.

Fig. 241.

CROW,

For Drilling and Tapping Street Mains.

Fig. 239.



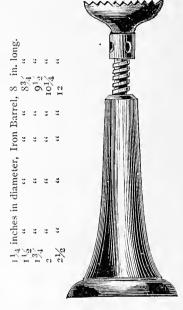


Cico

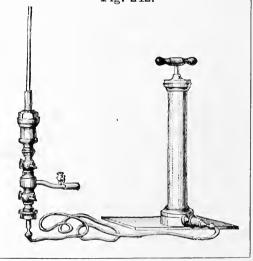
To force sediment from Pipe. Price \$18.00.

JACK SCREWS.

Fig. 240.



GAS FITTERS'
Proving Pump and Gauge.
Fig. 242.

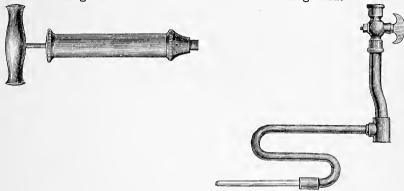


GAS FITTERS' PROVING PUMPS.

(Walworth Manufacturing Co's Pattern, with Syphon.)

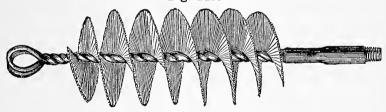
Fig. 243.

Fig. 244.



FLAT STEEL WIRE TUBE BRUSHES.

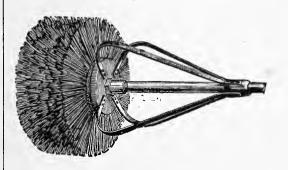
Fig. 245.



SPENCER'S STEEL WIRE TUBE BRUSH.

Fig. 246.

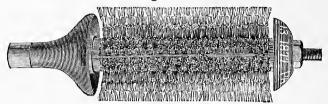
Fig. 247.





ABRAMS' FLUE BRUSH.

Fig. 248.



Patented May 11th, 1875, and Feb. 11th, 1877.

JACKSON'S FLUE SCRAPER.

Fig. 249.



NATIONAL FLUE SCRAPER.

Fig. 250.



ELASTIC TUBE SCRAPER.

Fig. 251.

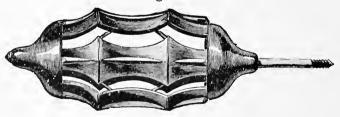


Fig. 252.



CHISTOFFEL'S BOILER TUBE SCRAPER.

Fig. 253.



(ELLIPTICAL.)

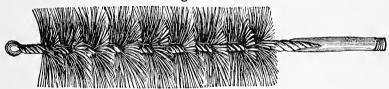
Fig. 254.



WHALEBONE FLUE BRUSHES.

With Ends Screwed to connect with Wrought Iron Pipe.

Fig. 255.



STEEL WIRE BRUSH.

(NOT TINNED.)

Fig. 256.

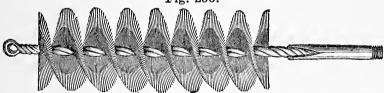


Fig. 257.



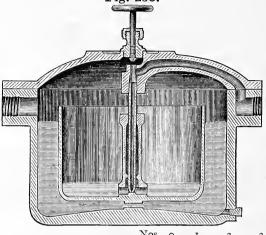
VALVE BOXES.

With Brass Spindle.

12, 15 and 18 inch.

STEAM TRAPS.

Fig. 258.



Nos. o, I, 2, 3, 4. 500, 1,500, 2,500, 4,500, 6,000. Condensing Capacity I in. Pipe, feet,

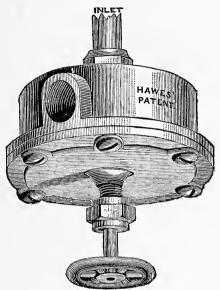
LOCKE'S IMPROVED STEAM TRAPS.

Fig. 259.

Three Sizes, Nos. 1, 2 and 3.

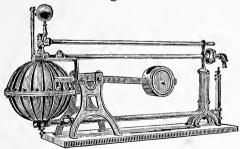
HAWES' STEAM TRAP.

Fig. 260.



ALBANY STEAM TRAP CO'S GRAVITATING RETURN TRAP.

Fig. 261.

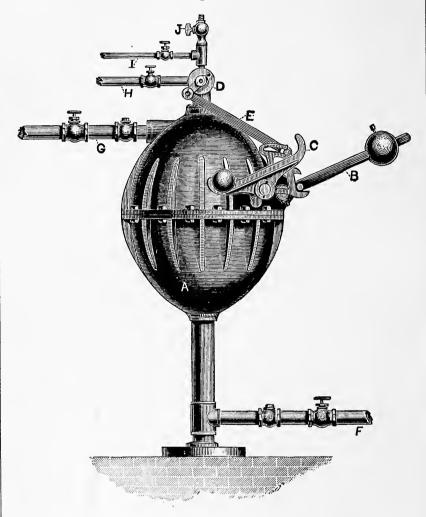


This Trap automatically drains the water of condensation from HEATING COILS, and returns the same to the Boiler, whether the Coils are above or below the water level in Boiler, thus doing away with pumps and other mechanical devices for such purposes.

Small size for 3,500 feet, I inch Pipe. Large " "7,000 " I "

PRATT'S AUTOMATIC BOILER FEEDER, and RETURN STEAM TRAP.

Fig. 262.

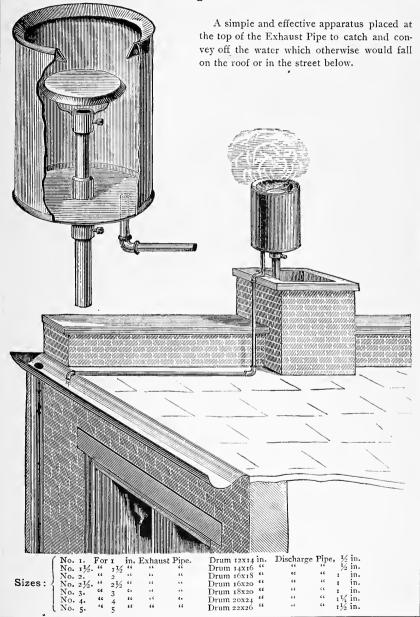


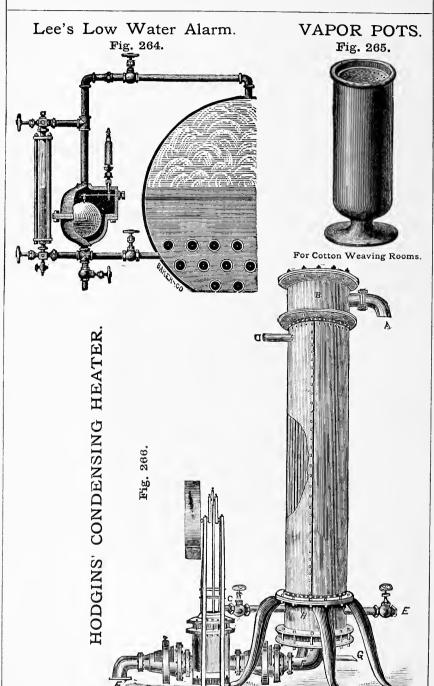
No. 1, To feed from 20 to 50 Horse Power.

" 2, " " 75 to 125 " " " 150 to 250 "

CONROW'S PATENT EXHAUST TRAPS, FOR STEAM PIPES.

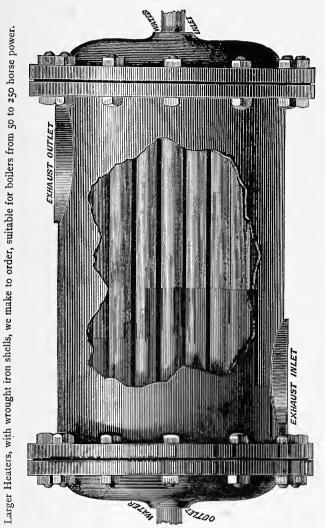
Fig. 263.





IMPROVED TUBULAR WATER HEATER.

Fig. 267.



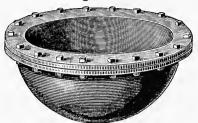
Diameter, 6, 8, 15, 15 inches Length, 3, 3, 2, 4 feet.

In this Heater, the water passes three times through the length of the heater in sections of tubes, the exhaust steam entirely surrounding them, filling the shell of the heater; entering and discharging upon opposite sides, while the water is received and delivered at the ends.

The sizes enumerated we keep constantly on hand.

Glue and Paste Kettles.

Fig. 268.



Double Cased and Bolted.

Glue Heaters.

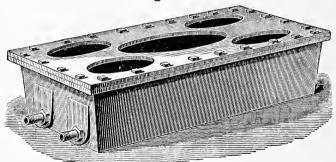
Fig. 269.



TWO HOLES.

GLUE HEATERS.

Fig. 270.



Four small and one large hole.

STEAM DISHES FOR HOTELS.

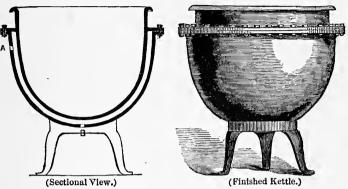
Fig. 271.



No. 1, No. 2, No. 3, $12\frac{3}{4} \times 17\frac{1}{2}$. 14×18 . $14 \times 19\frac{1}{2}$. Size of Dishes,

STEAM JACKET KETTLES.

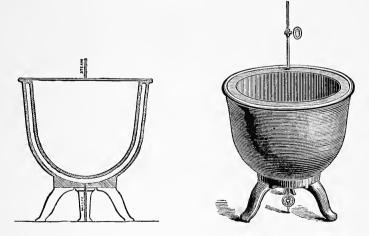
Fig. 272.



Flanged and Bolted.

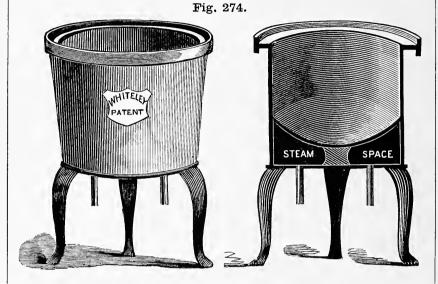
WHITELEY'S PATENT SEAMLESS DOUBLE JACKET KETTLE.

Fig. 273.



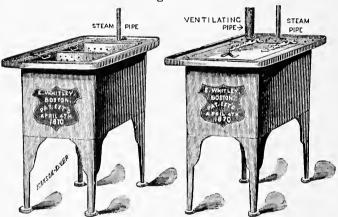
These kettles are all cast in one piece, having a steam space cored out, and requiring no bolts or packing in their construction, are much quicker boiled, and are all proved at a steam pressure of 75 pounds. They are rapidly coming into use, and where used give entire satisfaction.

WHITELEY'S SEAMLESS HALF JACKETED KETTLES.



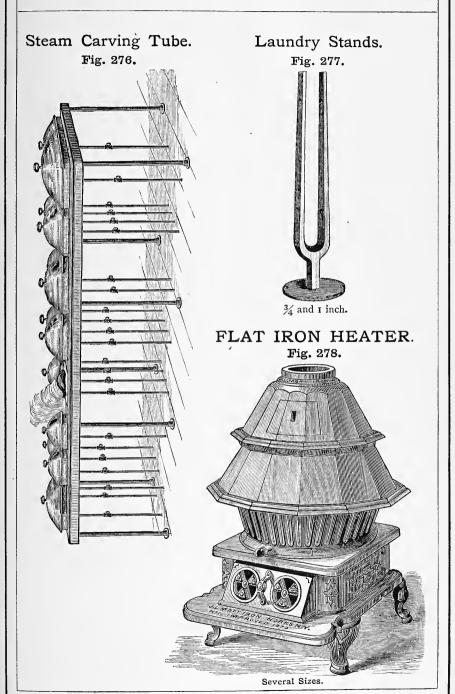
WHITELEY'S PATENT STEAMERS.

Fig. 275.

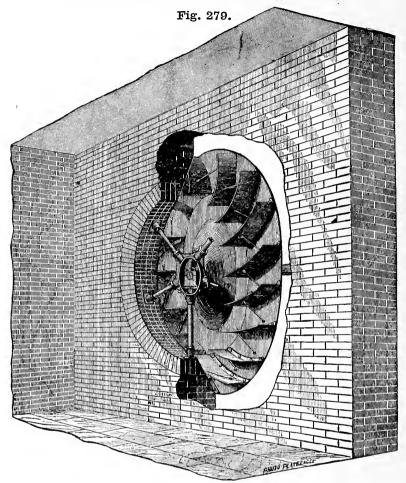


This form of steam apparatus is made of east iron, either plain or jacketed. They are in use in all the principal hotels and restaurants, and are an excellent article.

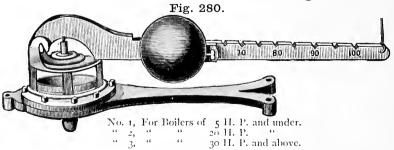
Capacity, No. 0, 12 bushel. No. 2, 1 bushel. No. 3, 2 bushels. No. 4, 3 bushels.



NASON'S VENTILATING FANS.



Clark's Patent Steam and Fire Regulator.



LOW PRESSURE DAMPER.

Fig. 281.



ASHCROFT'S LOW WATER DETECTOR.

Fig. 282.



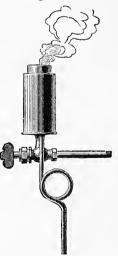
MERRILL'S AIR MOISTENER.

Fig. 284.

FUSIBLE PLUGS.

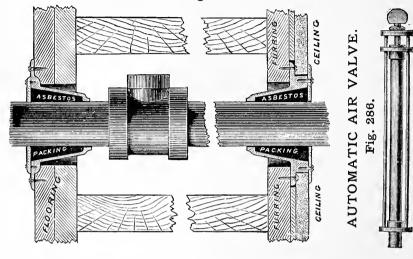
Fig. 283.



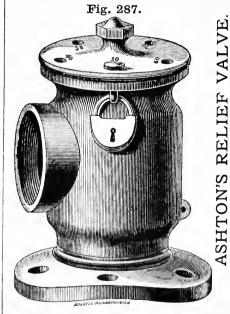


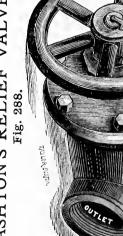
WALWORTH'S FIRE-PROOF FLOOR PACKING.

Fig. 285.

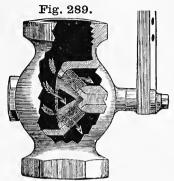


ASHTON'S LOCK SAFETY VALVE

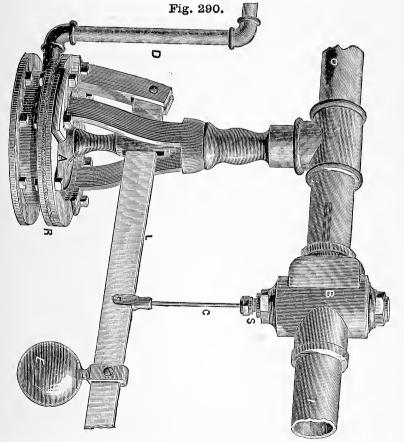




FITTS' CHRONOMETER GOVERNOR VALVE.



LOCKE'S STEAM REGULATOR.

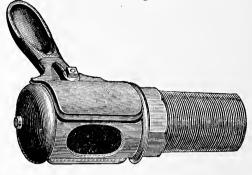


Mill & Factory Oil Cabinet. Molasses Gates.

Fig. 291.

Fig. 292.





MOONEY & MACK'S PATENT SAFETY VALVE.

Fig. 294.

CROSBY'S Pop Safety Valve. Fig. 293.

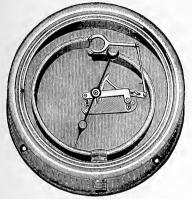


Locknut, by which the adjustment is fastened. B Adjustable Overhang. The Valve.

STEAM GAUGES.

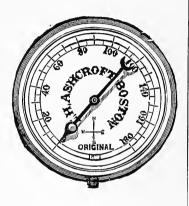
CROSBY'S IMPROVED.

Fig. 295.



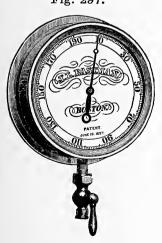
Interior View.

ASHCROFT'S. Fig. 296.



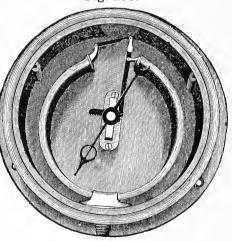
EASTMAN'S.

Fig. 297.

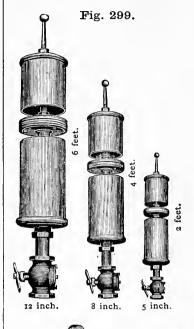


LANE'S IMPROVED.

Fig. 298.

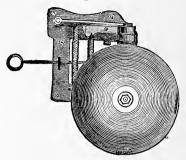


STEAM GONGS.



BRASS TRIP GONGS.

Fig. 300.



GONG CRANKS.

Fig. 301.

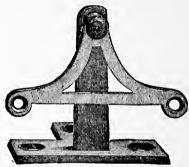
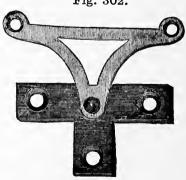
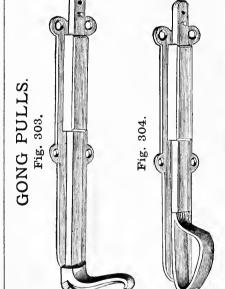
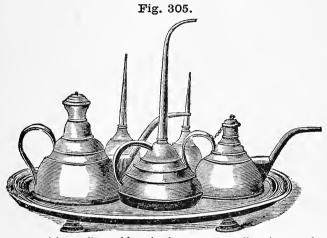


Fig. 302.



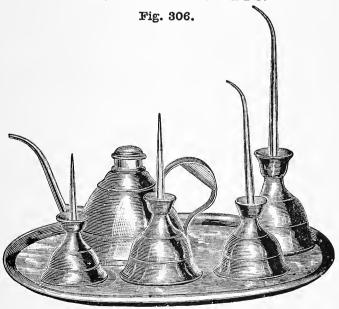


OILER SETS FOR STEAM ENGINE ROOMS.



No. 1, comprising 2 oilers, with spring bottom, 1 can, all set in an oval tray. No. 2, " 3 oilers, " " 2 cans, " " "

PRIOR'S OILER SETS.



OILERS.

MACHINE.

Fig. 307.



LOCOMOTIVE.

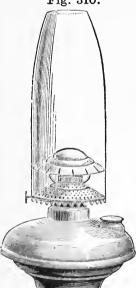
Fig. 308.



Fig. 309.



HAMMER'S PATENT Malleable Iron Lamps. Fig. 310.



For Oil or Kerosene. Malleable Iron Founts (B size.)

Malleable Iron Hand Lamps. FOR OIL OR KEROSENE. Fig. 311.



Screw, Kerosene Size.

BARTLETT'S

Crystal & Reflecting Lamp. Cast Iron Lamp Posts. Fig. 315.



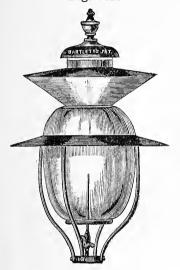




Fig. 313.

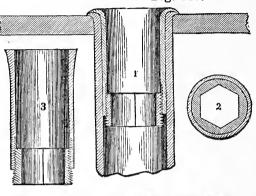


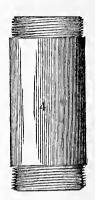
HURRICANE Patent Safety Lantern. Fig. 314.





QUINN'S DEVICE, FOR REPAIRING LEAKY BOILER TUBES. Fig. 316.

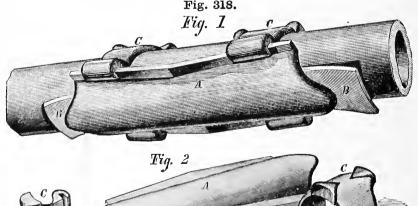


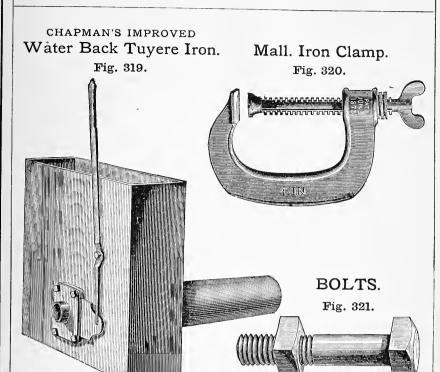




PATENT PIPE LEAK STOPPER.

Fig. 318.





The tank connected with it runs directly out to the end of the Blast Pipe, thereby facilitating a ready circulation of water, which greatly enhances its durability.

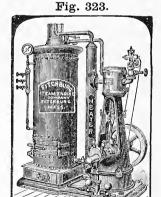
The tank also affords a supply of warm water at any time, by simply removing the plug at the bottom, which also serves to draw off the water in winter to prevent freezing.

SHEDD'S

FITCHBURG IMPROVED ENGINE. ENGINE and BOILER.



Uses but two pounds of coal per hour per horse power.



THE JUDSON PATENT Improved Steam Governor. Waters' Governor.

Fig. 324.

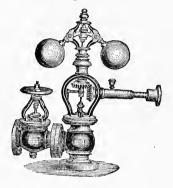
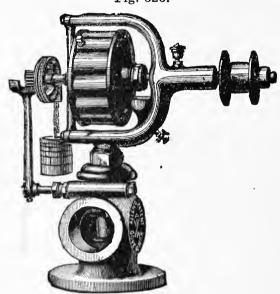


Fig. 325.

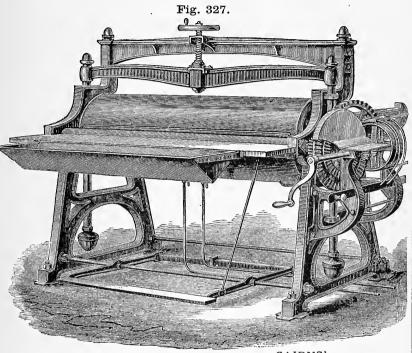


ALLEN GOVERNOR.

Fig. 326.

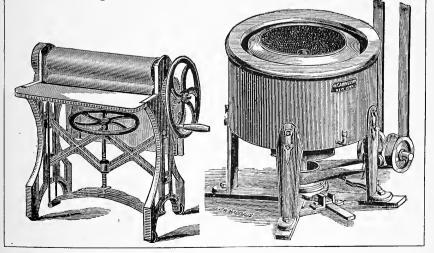


French Ironing and Mangling Machine.



American Mangle. Fig. 328.

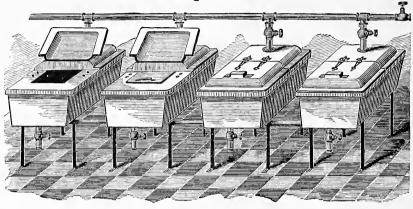
CAIRNS'
Centrifugal Extractors.
Fig. 329.



ASHCROFT'S PATENT STEAM OVENS.

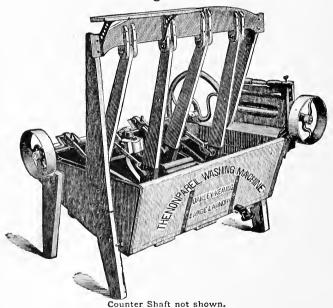
For roasting all kinds of Meats without loss in weight.

Fig. 330.



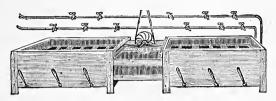
THE NONPAREIL "LAUNDRY" WASHING MACHINE.

Fig. 331.



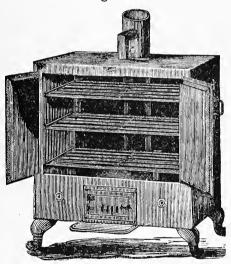
IMPROVED SHAKER WASHING MACHINE.

Fig. 332.



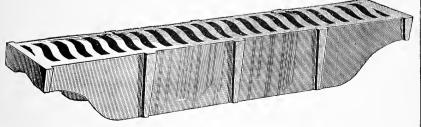
GALVANIZED PORTABLE OVEN.

Fig. 333.



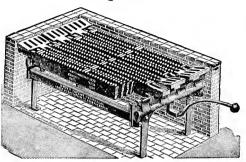
SMITH'S PATENT IMPROVED GRATE BAR.

Fig. 334.



RYDER'S RECIPROCAL GRATE BARS.

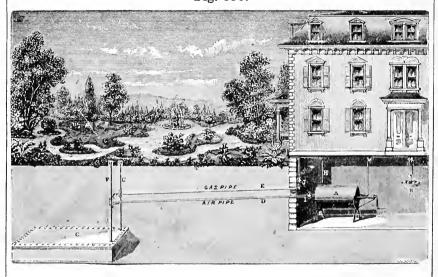
Fig. 335.



GAS GENERATORS,

FOR LIGHTING DWELLING HOUSES.

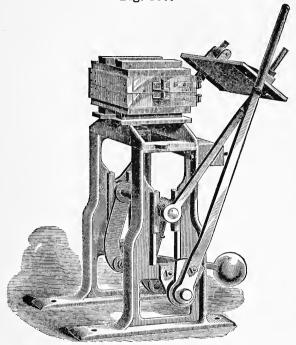
Fig. 336.



The best Apparatus for making Gas from Gasoline now in use.

T. F. HAMMER'S PATENT NEW AND IMPROVED FOUNDRY MOULDING MACHINE,

FOR IRON AND BRASS CASTINGS. Fig. 337.



ROUND SLIDE HOT AIR REGISTERS. LEVER REGISTERS.

Fig. 338.



This is the ordinary Floor Register. The Star Fixture adapts it to the wall, when cords may be attached if desired.



Arranged to receive, if wanted, the Star or Cord Fixtures.

Spiral Locked

Black and Galvanized Spiral Riveted

Galvanized Wrought Iron Spiral

SEAMED PIPE. Sheet Iron Pipe. RIVETED PIPE

Fig. 340.



Manufactured of Black and Galvanized Sheet Iron, Tin, Copper, Specially adapted for use as House Leaders, Ventilating Pipes, Speaking Tubes, Stove Pipe, &c. Zinc and Brass.

Fig. 341.

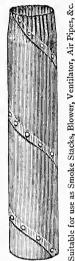


Fig. 342.



Water Pipe, &c. Manufactured in lengths of 10 15

feet, and tested to Hydraulic Pressure of 150 lbs.

Galvanized Cast Iron Flanged Elbows & Tees.

Fig. 343.



Fig. 344.



Corrugated, Adjustable and Lobster-Back

ELBOWS.

Fig. 345.



Fig. 346.



Black and Galvanized

Leader Hooks.

Fig. 347.



CAST IRON Leader Pipe or Shoes.

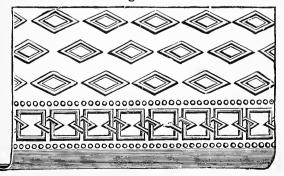


Galvanized Wrought Iron Hand
Suction or Bilge Pumps.
Fig. 349.



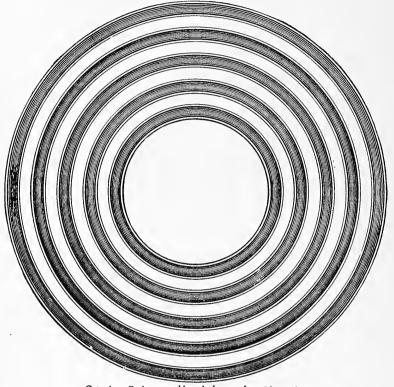
BRASS STAIR PLATES.

Fig. 350.

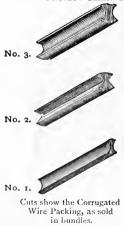


SAUNDERS' PATENT METALLIC CORRUGATED PACKING, For Steam, Air, Gas, or Water Joints, and all kinds of Union Coupling.

Fig. 351.



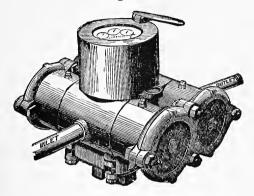
Cuts show Gaskets as sold ready for use, from 1/4 to 17 in.





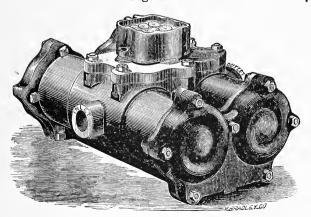
WORTHINGTON'S WATER METER.

Fig. 352.



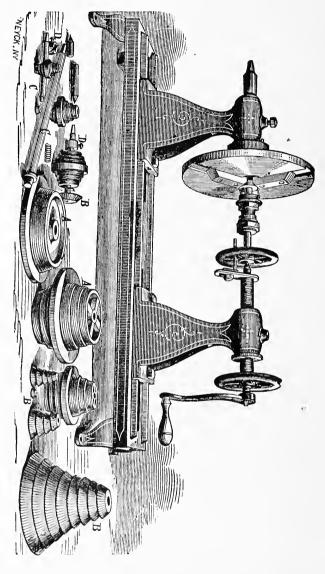
UNION WATER METER.

Fig. 353.



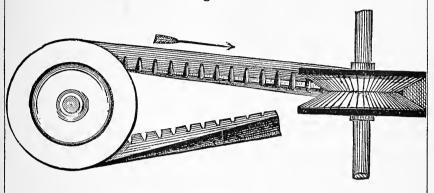
HALL'S PATENT VALVE REFITTING MACHINES.

Fig. 354.



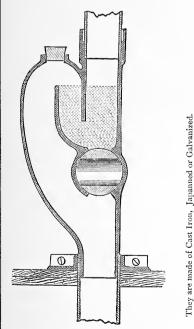
ANGULAR or V BELTING.

Fig. 355.



STILLSON'S STENCH TRAP.

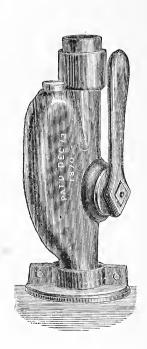
Fig. 356.



The Plug is Babbitted so that they are perfectly water-tight, and will not corrode. It requires no soldering, as the bottom end is made in form of a tunnel with screw thread.

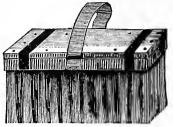
It is cheap and durable, and will stop all stench in any building arising from drains or sewers.

It can be put in Lead or Iron Pipe by anyone.



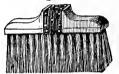
STEEL CASTING BRUSHES.

Fig. 357.



For Cleaning Castings.

Fig. 358.



Steel Wire Broom.

Fig. 359.



Boiler Brooms.

Fig. 360.

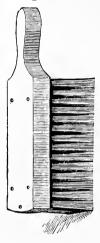


Fig. 361.



STATIONARY WASH STANDS.

Fig. 362.

Fig. 363.

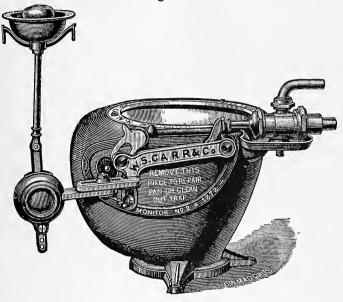




MONITOR VALVE CLOSET,

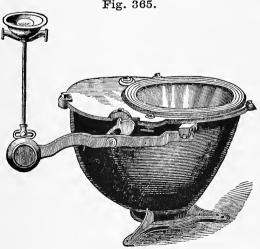
WITH REMOVABLE SECTION.

Fig. 364.



PAN WATER CLOSET,

Fig. 365.



TO BE USED WITH A CISTERN OVERHEAD.

HOSPITAL HOPPER CLOSET.

HEIGHT, 17 INCHES.

Fig. 366.

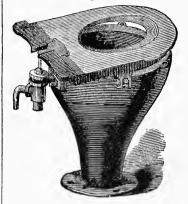
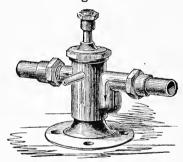


Fig. 367.



With Ventilation Pipe.

Single Acting Hopper Valve.
Fig. 368.



HOPPER and URINAL.

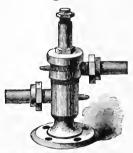
Fig. 370.



With Self-Raising Seats.

Water Waste Preventor Valve.

Fig. 369.



Ball Lever. Fig. 371.



Cistern Valve. Fig. 372.



Horizontal and Upright Crank. Fig. 373. Fig 374.





Sink Plugs.

Philadelphia Hopper. Copper Boiler. Copper Ball.





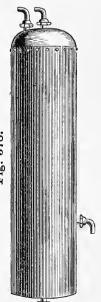


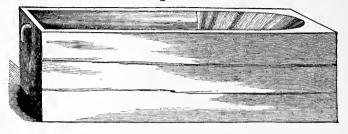
Fig. 377.



COPPER BATH TUBS.

5 feet 6 inches, or 6 feet long.

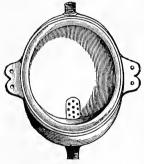
Fig. 379.



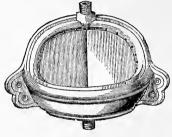
BEDFORDSHIRE URINALS.

Fig. 380.

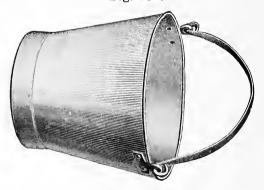




Large and small.

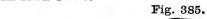


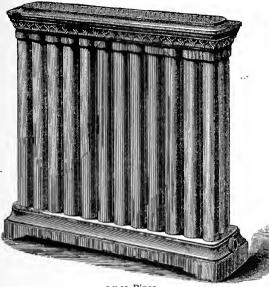
Galvanized Stable, Fire, or Factory Buckets. Fig. 382.



RADIATORS.

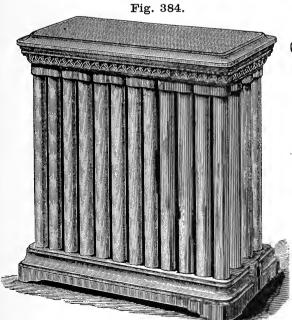
Fig. 383.





2 x 12 Pipes.

4 x 4 Pipes.

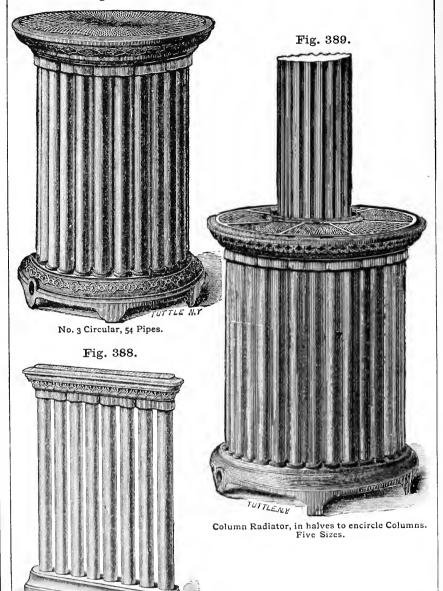


4 x 12 Pipes.



No. 1 Circular, 18 Pipes.

Fig. 387.



1 x 8 Pipes.

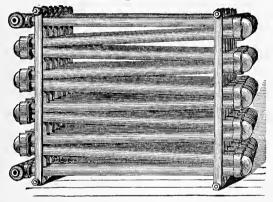
INDIRECT RADIATORS.

Fig. 390.



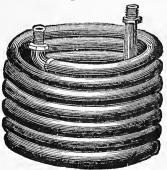
BOX COILS.

Fig. 391.



CIRCULAR COILS of WROUGHT IRON PIPE.

Fig. 392.



, T. F.

ORNAMENTAL SCREENS.

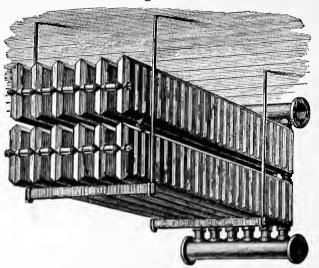
Fig. 393.



Sizes made to order, 31, 37 and 43 inches high.

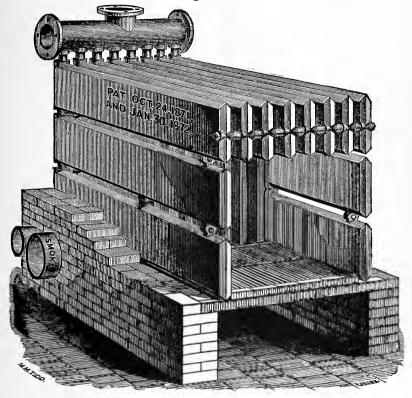
CLAY'S PATENT HOT WATER RADIATOR.

Fig. 394.

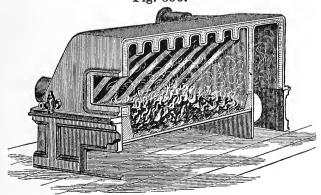


CLAY'S PATENT BOILER.

Fig. 395.



Smith & Lynch's Base Burner Boiler. Fig. 396.



S. & L's Return Flue Boiler. Weathered's Boiler. Fig. 397.

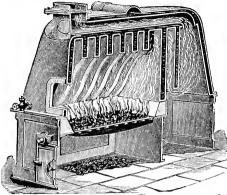
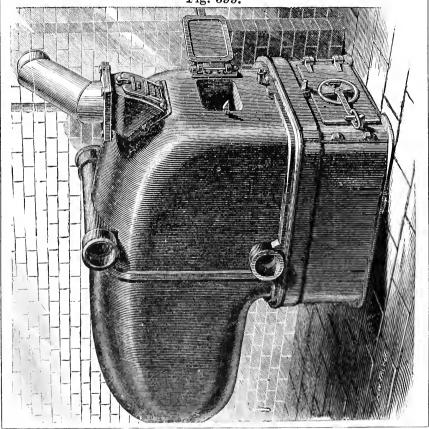


Fig. 398.

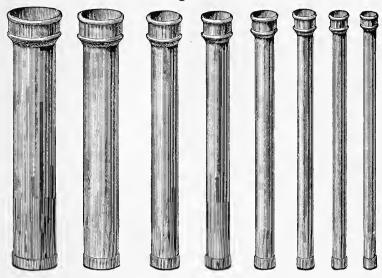


Hitchings' Corrugated Fire Box Boiler. Fig. 399.



CAST IRON SOCKET PIPE.

Fig. 400.

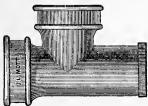


FITTINGS FOR SOCKET PIPE.

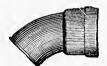
Quarter Bends. Fig. 401.



Tees. Fig. 403.



Eighth Bends. Fig. 402.



Return Bends. Fig. 404.



Cross.

Fig. 405.

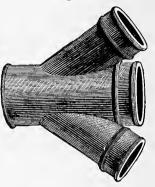


Double Y Branches.









Offsets.

Fig. 408.

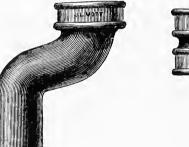
Double Hubs.

Fig. 409.



Reducing Pieces.

Fig. 410.





Straight Sleeves.

Fig. 411.



Single Hubs.

Fig. 412.



Saddle Hubs.

Fig. 413.



Pipe Stoppers or Plugs.

Fig. 414.





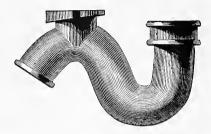


Half S Trap. Fig. 415.

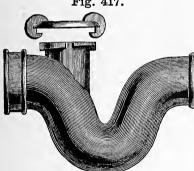


3-4 S Trap. Fig. 416.





Running Trap. Fig. 417.

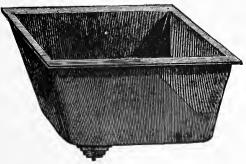


Half S Hopper Trap. Fig. 418.



SLOP SINK.

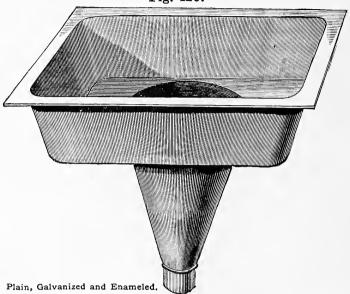
Fig. 419.



Plain, Galvanized and Enameled.

SLOP SINK, with Hopper Attached.

Fig. 420.



Corner Urinal.
With Opening behind for Lead Pipe.

Fig. 421.

Half Circle Urinals. No. 2, length on back 15 in. Fig. 422.

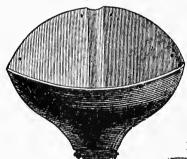
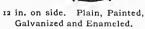


Fig. 423.

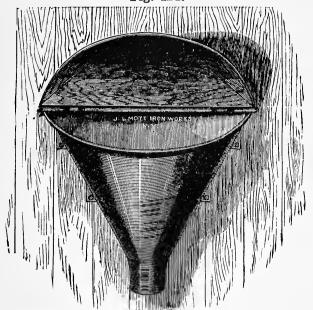




No. 1, length on back 12 in.

SLOP HOPPER,

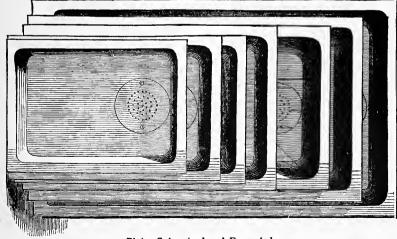
FOR HOTELS, PUBLIC INSTITUTIONS, &c. Fig. 424.



Length on back, 21 inches. Width, 121/2 in. Depth, 18 in. Outlet, 3 in.

SQUARE SINKS.

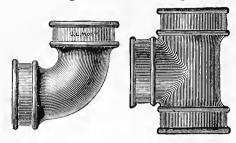
Fig. 425.



Plain, Galvanized and Enameled.

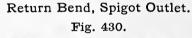
SPECIAL GREENHOUSE FITTINGS.

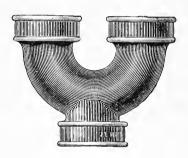
Double Hub Elbow. Tee, 3 Hubs. Double Hub Return Bend. Fig. 426. Fig. 427. Fig. 428.

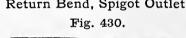




Return Bend with Hub Outlet. Fig. 429.

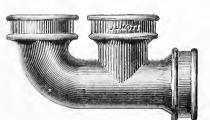








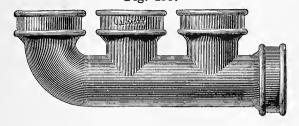
Double Elbow. Fig. 431.



H Branch. Fig. 432.



Triple Elbow. Fig. 433.



Three-Way Branch, with Hub Outlet.

Fig. 434.



Return Bend, with Expansion.

Fig. 435.



Return Bend B. O. with Expansion.

Fig. 436.



Return Bend Spigot,

B. O. Socket.

Fig. 437.

3 Branch Pipe,

with Expansion. Fig. 438.

H Fitting, with Expansion.

Fig. 439.



H Fitting, with End O.

Fig. 440.



Double 3 Branch Pipe, with Expansion.

Fig. 441.



Tank, with three Outlets.

Fig. 442.



Tank, with four Outlets.

Fig. 443.



Stand Pipe, Plain. Stand Pipe, Gothic. Register.

Wing Valve.

Fig. 444.



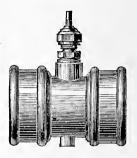
Fig. 446.

Fig 447.









Single Roller Plate and

Pipe Roll.

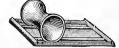
Pipe Chair. Pipe Saddle, Single. Pipe Saddle, Triple.

Fig. 448.

Fig. 449.

Fig. 450.

Fig. 451.









Pipe Clamps,

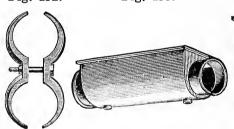
Fig. 452.

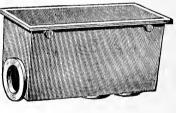
Vapor Pan.

Fig. 453.

Expansion Tank.

Fig 454.



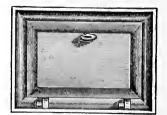


Air Trunk. Fig. 455.

Door and Frame. Fig. 456.



Two Sizes, 8 x 8 in., 8 x 12 in.



Door 14 x 20 inches.

WALWORTH'S SELF-CLOSING BASIN COCKS, &c.

Lever Handle, Basin Cock.

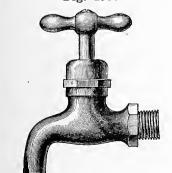
Fig. 457.



T Handle (on side). Fig. 458.



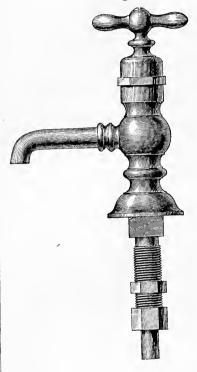
S. C. Plain Bibb for Iron Pipe. S. C. Plain Bibb for Lead Pipe. Fig. 459. Fig. 460.





T Handle (on top).

Fig. 461.



Stop and Waste Valve, with Finished Plate and Handle.

Fig. 462.

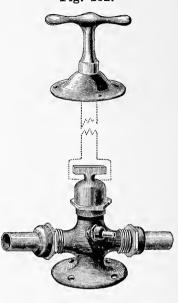


Fig. 463.



Self-Closing Hopper Cock. Zane's Self-Closing Bibbs.

Fig. 464.



Screwed Ends for Iron Pipe.

WATER WORK.

Plumbers' Bibb Cocks.

Fig. 465.



Finished.

Plain Bibb Cocks. Fig. 466.

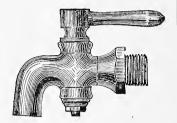


Fig. 467.

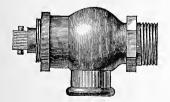


Hose Bibb Cocks. Stop and Waste. (Iron Pipe.) Fig. 468.



Rough.

Compression Ball Cocks. Fig. 469.



Screwed End for Iron Pipe.

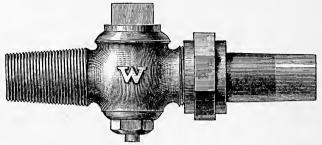
Compression Bibb Cocks. Fig. 470.



Plain and Hose Ends. (Finished.)

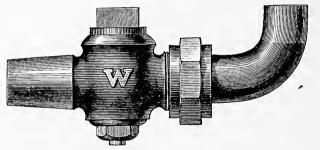
CORPORATION COCKS.

Fig. 471.



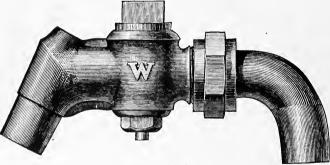
With Straight Union.

Fig. 472.



With Bent Union.

Fig. 473.



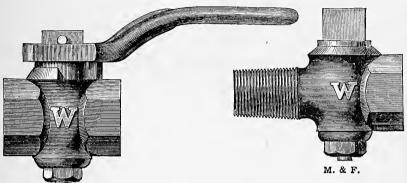
To drive with Union.

Lever Handle Stop Cock.

Corporation Cock.

Fig. 475.



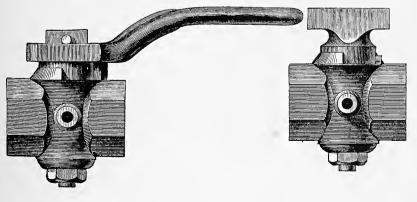


Lever Handle Stop and Waste Cock.

T Handle Stop and Waste.

Fig. 476.

Fig. 477.

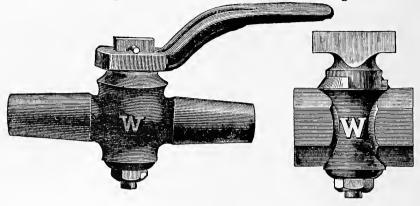


Stop Cock, Ends to Solder.

T Handle Stop Cock.

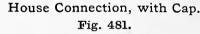
Fig. 478.

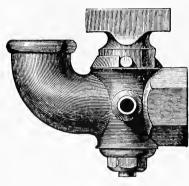
Fig. 479.

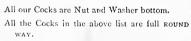


Hydrant Cock with Waste, House Connection, with Cap. T Handle.

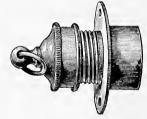
Fig. 480.



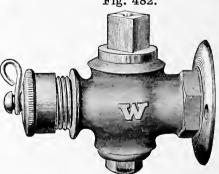




1st quality Cocks are made from new metal. 2d quality are made from old composition.

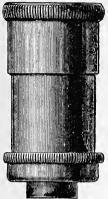


Sill Cock. Fig. 482.



HOUGHTON'S PATENT FILTERS.

Fig. 483.



CHARCOAL



Fig. 484.



No. 1. (Reversible.)

Fig. 485.







No. 2. (Reversible.)

Fig. 486.

No. 3.



HOSE BIBB END.





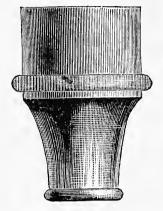
34 inch.

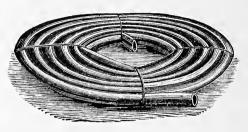
The above cuts are about two-thirds size.

CROTON FILTERS. RUBBER HOSE.

Fig. 488.

Fig. 489.





CLARK'S LINEN ENGINE HOSE.

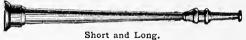
Fig. 490.



Will not mildew, and warranted to stand 700 lbs. pressure per square inch.

HOSE PIPES. (Without Cocks.)

Fig. 491.





Short and Long. (With Cocks.)

COMBINATION HOSE PIPE.

Fig. 493.



12 and 14 inches long.

THREE-WAY HOSE PIPES.

Fig. 494.



COMPRESSION HOSE PIPES.

Fig. 495.



RUBBER HOSE PIPES.

Fig. 496.



HOSE SPRINKLERS.

Fig. 497.



HOSE CAPS.

Fig. 498.



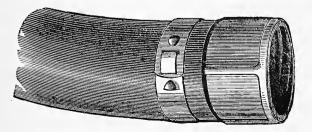
EARLE'S PATENT HOSE BANDS.

Fig. 499.



EARLES PAT NOV. 1875.

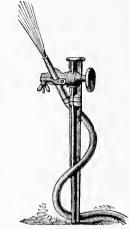




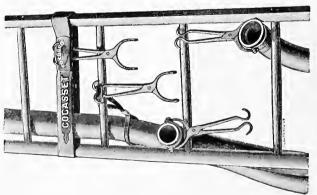
CALDWELL'S PATENT HOSE STRAP. Fig. 500.



LEAVITT'S HOSE-PIPE HOLDER. Fig. 501.



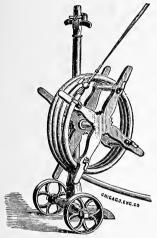
POND'S PATENT FIRE-HOSE WRENCH.



This cut shows the different applications of the Fire-hose Wrench.

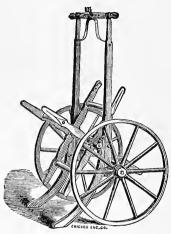
THE FOUNTAIN HOSE CARRIAGE.

Fig. 503.



No. 1, Holds 50 to 75 ft. 3/4 in. Hose.

Fig. 504.

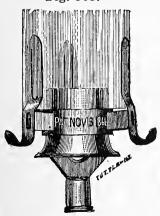


No. 2, Holds 100 to 150 ft. ¾ in. Hose.

" 3, " 200 to 250 ft. " "

GAS BURNERS AND TIPS.

Fig. 505.



ARGAND BURNER. Open Spring Holder.

Fig. 506.



Fig. 507.



Fig. 508.



Common Brass Burner

Iron Pillar. Brass Pillar. Iron Burners.

Fig. 509. Fig. 510. Fig. 511. Fig. 512.











Scotch Tips.

Fig. 513. Fig. 514.





Batwing.

Fishtail Burner Cleaner. Fig. 517.

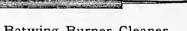
Lava Tips. Fig. 515. Fig. 516.

Excd. Head



Batwing.





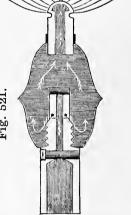
Batwing Burner Cleaner. Fig. 518.

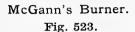




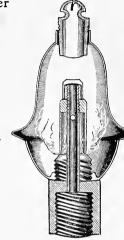








Anderson's Burner
Fig. 522.
PAT.MARCH27.1877



Volcano Burner. Fig. 524.

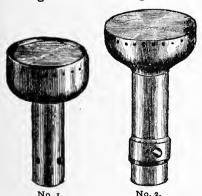


Nurse Lamp to fit over any Burner. Fig. 527.

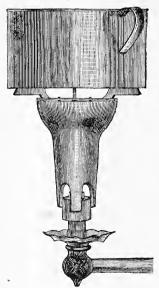
Jones' Burner.

Fig. 525.

Fig. 526.

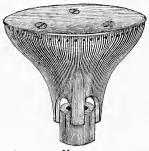


For Glue Kettles and Hot Water Boilers.



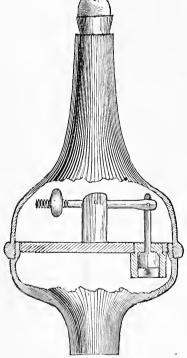
No. 3.

Large Iron Burner. Fig. 528.



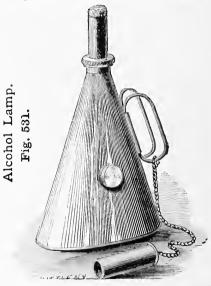
For Ranges and Stoves.

JONES' PATENT Automatic Regulator Burner Fig. 530.



For City Street Lights, Railroads, Hotels, and all late burning Burners.





GAS FIXTURES.

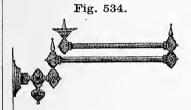
BRACKETS.



No. 100.

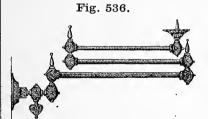


Fig. 535.



No. 102.

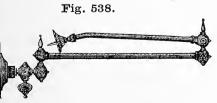




No. 104.



No. 112.

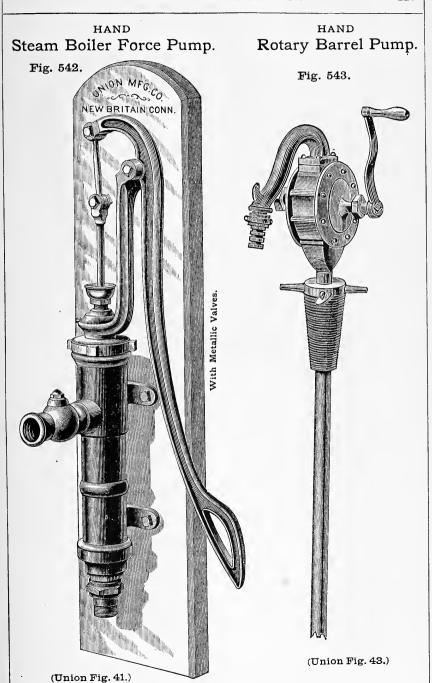


No. 106.



No. 113.

CISTERN PUMP. (Eastern Pattern.) Fig. 540. Fig. 541. (Union Fig. 1.) On Base, with Revolving Brake, and Brass Valve Seat.



IMPROVED Pitcher Spout Pump. Water Filter and Primer.

Fig. 545.





(Union Fig. 104.)

(Union Fig. 7.)

Lower Sections or Working Cylinders Leather Packed Pistons, with either Bolt or Screw Attachment.

Fig. 546.

Fig. 547. SCREW ATTACHMENT.

BOLT ATTACHMENT.

Sizes, No. 1, of 214 inch bore. 2, of 21/2 3, of 2% 4, of 3



6, of 31/2 7, of 314 8, of 4

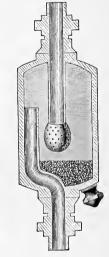
5, of 314

Fitted for pipes of most suitable sizes.





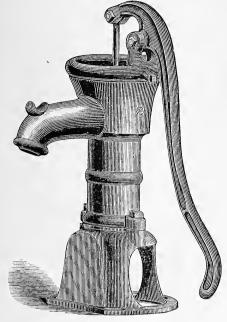
(Union Fig. 45.) For Lend Pipe with either Bolt or Screw Connection.



Section of Union Fig. 104.

PITCHER-TOP PUMP. STRAINER and REST.

Fig. 548.



(Union Fig. 67.)

Fig. 48 represents our Improved Strainer and Rest, for the lower end of Iron Suction Pipe. Fig. 549.

The point resting on the bottom of the Well, keeps the Pipe from vibrating.

(Union Fig. 48.)

Sizes, suitable for 14 inch Iron Pipe.

44	66	1 1/2	44	66
44	4.4	2	44	"
66	"	21/2	"	"
"	"	2	66	"

IMPROVED LOWER CHECK VALVE,

WITH STRAINER ATTACHED.

Fig. 550.





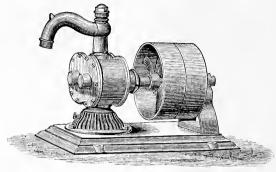


(Union Fig. 49.)

Fig. 49, shows our Improved Lower Check or Foot Valve, with Strainer, for attaching to the lower end of Suction Pipe of extreme length. The Check Valve being submerged, is always tight, and consequently sustains the column of water, and keeps the pipe filled.

Sizes, I, 114, 112, 2, 214 and 3 inch. Fitted for Pipe of like size.

ROTARY FORCE PUMP, on Frame. WITH TIGHT AND LOOSE PULLEYS. Fig. 551.



(Union Fig. 66.)

The Aquarius.

Fig. 552.

HORIZONTAL DOUBLE ACTING

Suction and Force Pump.

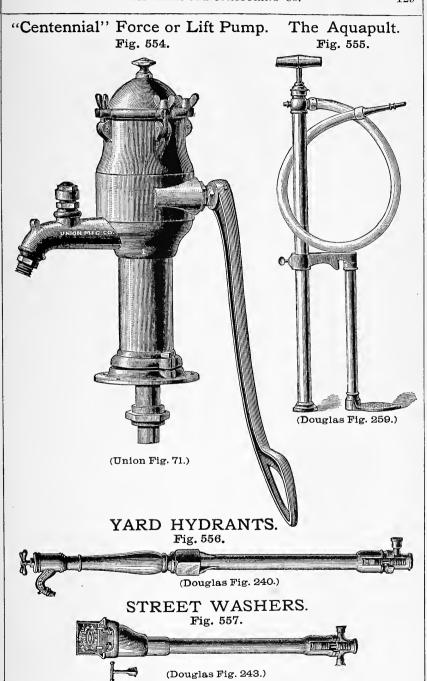
Copper Lined Cylinder, Adjustable Lever.

Fig. 553.



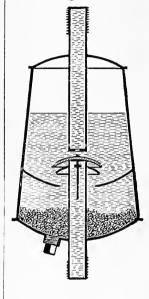
(Union Fig. 68.)

(Union Fig. 80.)



Sells' Strainer.

Fig. 558.



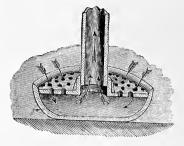
Galvanized Strainer.

Fig. 559.



Mushroom Strainer.

Fig. 560.



HYDRAULIC RAM.

Fig. 561.



HODGKINS' Improved Water Ram.

Fig. 562.

Patented Oct. 10, 1871, and Nov. 26, 1872.



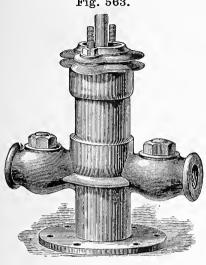
With Double Acting Balance Valve.

Steam Boiler Feed Pumps.

With Spherical Valve Chambers.

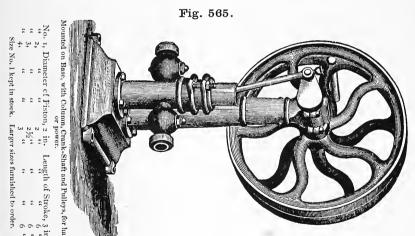
Fig. 563.







COLUMN BOILER FORCE PUMP.



JOHNSON'S PATENT DRIP PUMP.

Fig. 566.

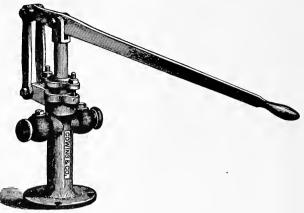


For Gas Companies. Fitted for 34 in. Pipe.

HYDRAULIC PRESSURE PUMP,

For testing Boilers, Pipes, &c.

Fig. 567.



Morrell's Submerged Deep Well and Force Pump.

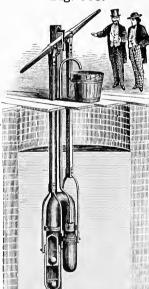
Fig. 568.

Copper Pump.

Iron Top.



Size, Nos. 1, 2, 3. Diameter, 2\(\frac{1}{2}\), 2\(\frac{3}{4}\), 3 inches.



0001915.50.

Copper Pump.

Stationary Copper Top. Fig. 570.



Size, Nos. 1, 2, 3, 4, 5. Diam., 2\frac{1}{2}, 2\frac{3}{4}, 3, 3\frac{1}{4}, 3\frac{1}{2} in.

AIR

Chamber Pump, Iron Top. Force Pump on Plank.

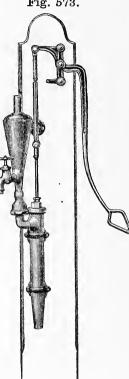




Flange Force Pump. To Screw to Shelf.



Fig. 573.



Lower Boxes. Upper Boxes. Upper Clasps. Lower Clasps. Fig. 577. Fig. 574. Fig. 575. Fig. 576.









Flange Clasps. Fig. 578.



Air Chamber. Fig. 579.



Copper, 61/2 inch.

Flange Couplings. Fig. 580.



DRIVE WELL POINTS.

LEWIS'.

Fig. 581.

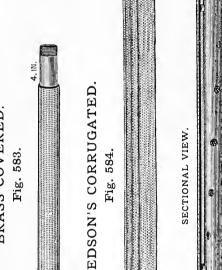


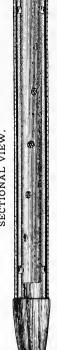
GALVANIZED.

Fig. 582.









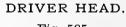


Fig. 585.



Plumbers' Brass Pipe Fig. 586.

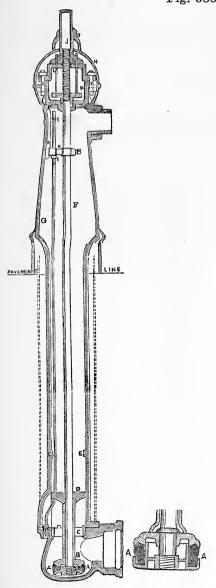






LUDLOW'S PATENT FIRE HYDRANT.

Fig. 588.



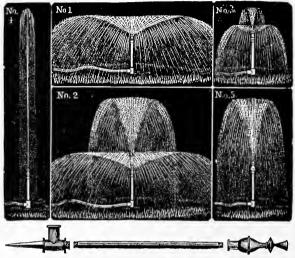


JENKS'

PATENT PORTABLE LAWN FOUNTAIN,

Attached to head of water for Ornamenting and Irrigating Lawns, Gardens, Flower and Strawberry Beds, etc.

Fig. 589.



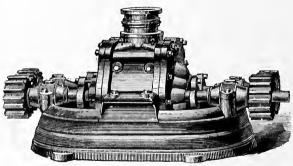
Pat. June 9, 1874.

Pat. May 26, 1874.

CROCKER'S TWIN ROTARY PUMP.

Patented January 4, 1876.

Fig. 590.



CUT OF PUMP COMPLETE.

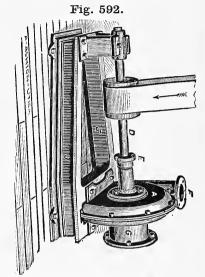
6 sizes made. Circulars mailed on application.

HEALD & CISCO CENTRIFUGAL PUMP.

Fig. 591.

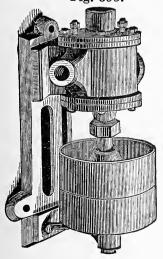


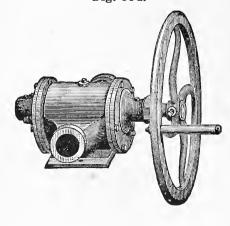
The Vertical Pump.



The Horizontal Pump.

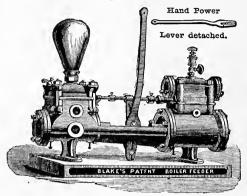
Foster's "Excelsior" Pump. "Excelsior" Hand Pump. Fig. 593. Fig. 594.





BLAKE'S PATENT STEAM PUMP.

Fig. 595.



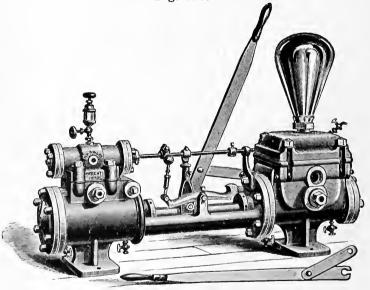
Pumps for Feeding Boilers.

KNOWLES' PATENT

Boiler Feeding and Heavy Pressure Pumps.

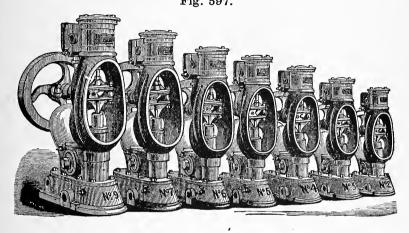
Arranged for either hot or cold water.

Fig. 596.



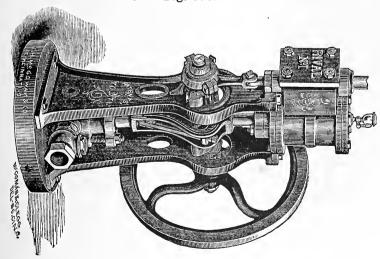
Cut above represents regular Boiler Feed Pump, No. 3 and 4. Showing New Patent Valve Motion, and Hand Power LEVER attached and detached.

WRIGHT'S PATENT Double-Acting Bucket Plunger Steam Pumps. Fig. 597.

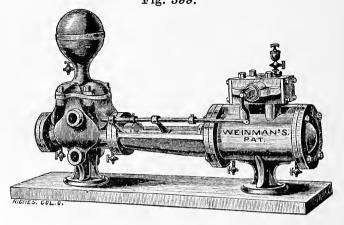


"RIVAL" STEAM PUMPS.

Fig. 598.



WEINMAN'S PATENT STEAM PUMPS. Fig. 599.



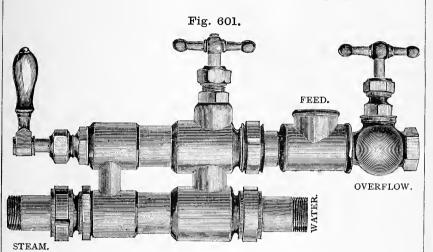
Landsell's Patent Steam Syphon Pumps. Fig. 600.



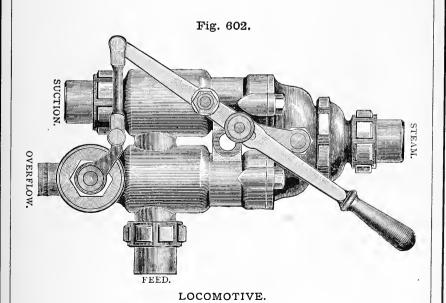
A, Body of Syphon.B, Steam Pipe.

C, C, Suction Pipe.
D, E, Discharge Pipe.

THE HANCOCK INSPIRATOR.



STATIONARY.

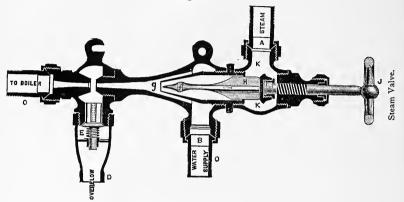


MACK'S

PATENT INJECTORS OR BOILER FEEDERS.

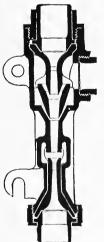
For Stationary, Marine and Portable Boilers.

Fig. 603.



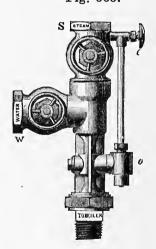
THE FRIEDMANN INJECTOR.

Fig. 604.



CLASS C .- Non-lifting.

Fig. 605.

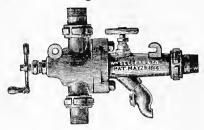


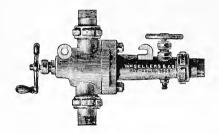
CLASS D .- Lifting.

GIFFARD'S INJECTOR.

For Feeding Boilers.

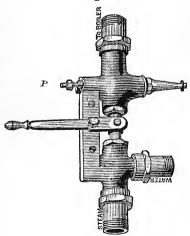
Fig. 606.





RUE'S LITTLE GIANT INJECTOR.

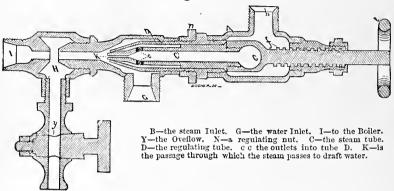
Fig. 607.



Where the water is to be lifted a small steam pipe is attached at P for a lifting jet.

LITTLE'S INJECTOR.

Fig. 608.



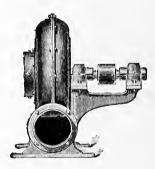
FAN BLOWERS.

EXHAUST FANS.

Fig. 609.

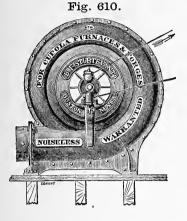


For Cupola Furnaces and Forges, Puddling and Heating Furnaces, Steam Boilers, drying Cotton, Wool, &c.



For removing Shavings from Wood Working Machinery, dust from Sand and Emery Wheels, Ventilation, Refrigerating, &c.

Sturtevant Blower.



Self-Acting Water Feeder.

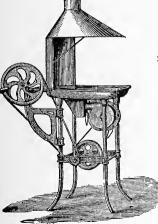
Fig. 611.



Blacksmith's Forges.

(ROTARY.)

Fig. 612.



Forge No. 1, with Hood. Weight, 88 lbs.
Diameter of Fan, 6 inches.

Coal Barrows.

Fig. 613.



Size A, with Tray holding 300 lbs. of coal. Greatest width of Tray 30 inches. Weight of Barrow, 135 lbs. Lifting weight, 28 lbs.

Gardner's Patent Belt Clamp,

For drawing belts together for the purpose of lacing them.

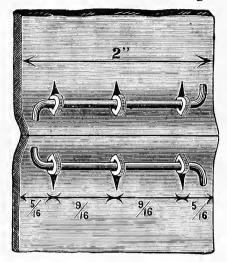
Fig. 614.



8, 12, 16 inch, and larger.

CHAPMAN'S PATENT BELT FASTENING.

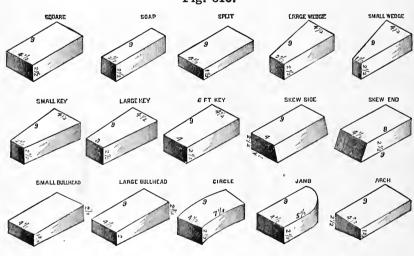
Fig. 615.





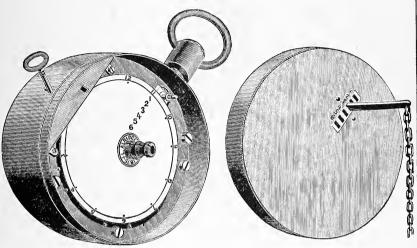
FIRE BRICK.

Fig. 616.



WATCHMAN'S TIME DETECTOR.

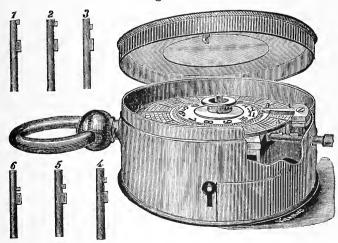
Fig. 617.

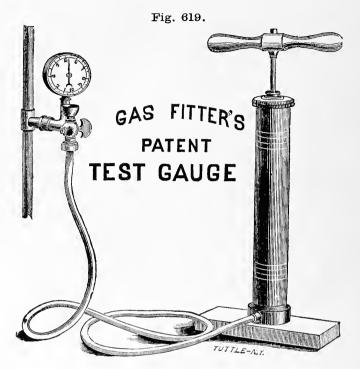


To record the movements of Watchmen in each room of Factories, Warehouses, Machine Shops, Railroad Buildings, &c.

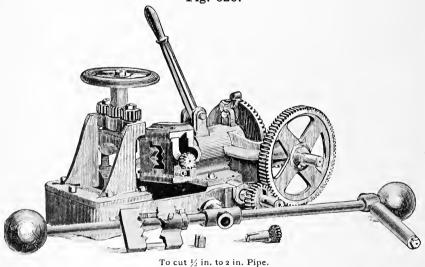
BUERK'S WATCHMAN'S TIME DETECTOR.

Fig. 618.





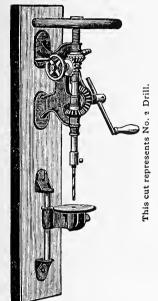
Pipe and Bolt Threading, and Cutting Machine. Fig. 620.



TAFT'S Drilling Machines.

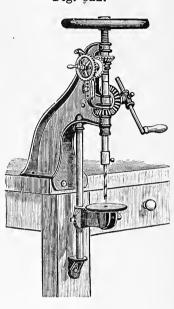
(Self-Feeding.)

Fig. 621.

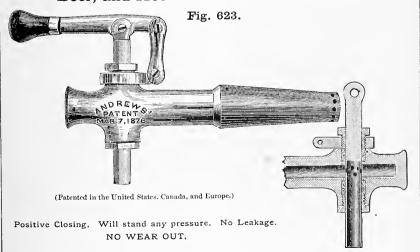


TAFT'S Improved Bench Drill.

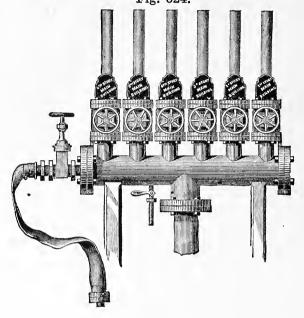
Fig. 622.



ANDREWS PATENT Beer, and Hot and Cold Water Faucets.

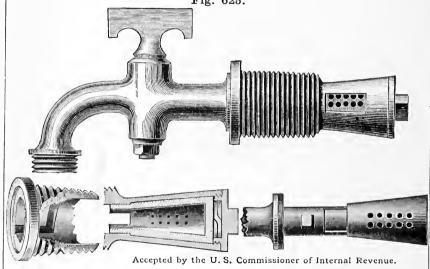


Fire Extinguishing Apparatus for Factories. Fig. 624.



COMBINATION LOCK FAUCET.

Fig. 625.



MALLEABLE IRON FITTINGS.



ELBOWS.



Smooth, without bead for Gas.

With bead for Steam and Water.

No.		No.		No.	
* I	1/8	17	$1 \times \frac{3}{4}$	33	2
* 2	1/4 × 1/8	18	I	36	$2\frac{1}{2} \times 1\frac{1}{2}$
3	1/4	2 I	$_{1}^{1/4} \times _{4}^{3/4}$	37	2 ½ × 2
* 1	3/8 × 1/8	22	1 ½ × 1	38	2 1/2
5	3/8 × 1/4	23	1.1/4	40	3×2
6	3/8	25	$_{1}\frac{1}{2}\times \frac{3}{4}$	4 I	$3 \times 2\frac{1}{2}$
8	$\frac{1}{2} \times \frac{3}{8}$	26	$_{1}^{1/_{2}} \times _{1}$	42	3
9	1/2	27	1½×1¼	45	3½×3
*11	$\frac{3}{4} \times \frac{3}{8}$	28	1 1/2	46	$3\frac{1}{2}$
12	$\frac{3}{4} \times \frac{1}{2}$	31	2 × 1 1/4	49	$4 \times 3\frac{1}{2}$
13	3/4	32	2 X 1 ½	50	4
-	T Y 1/2				

Note.—All sizes 2 inch and under, furnished plain for gas or beaded for steam, except those marked *, which are plain only.

All sizes above 2 inch are with bead or band.

In ordering, be particular to mention gas or steam.

STREET ELBOWS.



Male and Female Screw.

No.		No.		No.	
	1/2		I	72	$1\frac{1}{2}$
	$\frac{1}{3/4} \times \frac{1}{2}$	67	1 ½ × 1	74	$2 \times 1\frac{1}{2}$
	3/4	•	1 1/4	75	2
	7 ⁴ × 3/ ₄		1½×1¼		

ELBOWS.



With Side Outlet.

No.	S. O.	No.			s. o.	No.			s. o.
77	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	84	3	4×	$\frac{3}{4} \times \frac{1}{2}$	89	I	$\times_{\rm I}$	\times $\frac{3}{4}$
78	3/8 × 3/8 × 3/8	85	3	4× 3	$\frac{3}{4} \times \frac{3}{4}$	90	1	\times 1	$_{\rm I} \times$
80	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	87	I	\times 1	\times 3/8	94	1 1/2	\times_{1}	1×1
81	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	88	1	\times 1	$\times \frac{1}{2}$	95	I 1/2	\times_{1}	1×11/4
83	$3/1 \times 3/1 \times 3/8$								



TEES.



In describing Tees the run is first named, then the outlet, thus:

	$\frac{1}{1/2}\frac{1}{1}\frac{3}{8} = \frac{1}{1/2} \times$	(3/8 × 1/4		- 3/8 1/2	$\frac{1}{2} = \frac{1}{2} \times \frac{3}{8}$
No.		No.		No.	
*100	1/8	*147	$\frac{3}{4} \times \frac{3}{8} \times \frac{3}{4}$	*168	$I \times \frac{I}{2} \times I$
*101	1/8 × 1/4	*148	$\frac{3}{4}$ × $\frac{3}{8}$ × 1	*169	$1 \times \frac{1}{2} \times 1\frac{1}{4}$
*106	1/4 × 1/8	149	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$	170	$1 \times \frac{3}{4} \times \frac{3}{8}$
107	1/4	*150	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	171	$1 \times \frac{3}{4} \times \frac{1}{2}$
*108	$\frac{1}{4} \times \frac{3}{8}$	151	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	172	$1 \times \frac{3}{4} \times \frac{3}{4}$
*114	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	152	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$	173	$1 \times \frac{3}{4} \times 1$
*115	$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	*153	$\frac{3}{4}$ × $\frac{1}{2}$ × 1	*174	$1 \times \frac{3}{4} \times 1\frac{1}{4}$
*119	3/8×1/8	*154	$\frac{3}{4} \times \frac{1}{4}$	175	1 × ¼
120	$\frac{3}{8} \times \frac{1}{4}$	155	$\frac{3}{4} \times \frac{3}{8}$	176	1 × 3/8
121	3/8	156	$\frac{3}{4} \times \frac{1}{2}$	177	$1 \times \frac{1}{2}$
*122	$\frac{3}{8} \times \frac{1}{2}$	157	3/4	178	$1 \times \frac{3}{4}$
*129	½×3/8×1/4	158	3⁄4 × 1	179	I
*130	1/2×3/8×3/8	*161	1 × 3/8 × 1	180	$1 \times 1\frac{1}{4}$
*131	$^{1}_{2} \times \frac{3}{8} \times ^{1}_{2}$	#162	$1 \times \frac{3}{8} \times \frac{3}{4}$	1801	$1 \times 1\frac{1}{2}$
*132	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{4}$	*163	1 × 3/8×1	*181	$1\frac{1}{4} \times 38 \times 1$
*13.4	½×¼	*164	\times 3/8 \times 1/4	*182	1/4× 3/8×1/4
135	1/2×38	*165	$1 \times \frac{1}{2} \times \frac{3}{2} 8$	*184	$1\frac{1}{4}$ \times $\frac{1}{2}$ \times 1
136	12	166	$1 \times \frac{1}{2} \times \frac{1}{2}$	*185	1¼× ½×1¼
137	12 × 3/4	* 167	$1 \times \frac{1}{2} \times \frac{3}{4}$	188	$1\frac{1}{4} \times \frac{3}{4} \times \frac{3}{4}$
*146	$\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$				

TEES.—Continued.

No.		No.			No.		
*189	$1\frac{1}{4} \times \frac{3}{4} \times 1$	*214	I 1/2	$\times 1\frac{1}{4} \times \frac{3}{4}$	236	2	\times $\frac{3}{4}$
190	11/4 × 3/4 × 11/4	215	$1\frac{1}{2}$	$\times_{1}\frac{1}{4}\times_{1}$	237	2	\times 1
*191	1 1/4 × 1 × 3/8	216	$I^{1/2}$	\times 1 $\frac{1}{4}$ \times 1 $\frac{1}{4}$	238	2	× 1 ¼
*192	11/4 ×1 -× 1/2	217	$I \frac{1}{2}$	\times 1 $\frac{1}{4}$ \times 1 $\frac{1}{2}$	239	2	X 1 ½
193	$1\frac{1}{4} \times 1 \times \frac{3}{4}$	219	$I^{1/2}$	× 3/8	240	2	
194	1 1/4 × 1 × 1	220	$I \frac{1}{2}$	X ½	249	2	$\times 2\frac{1}{2}$
195	11/4 X 1 X 11/4	22 I	$I \frac{1}{2}$	\times $\frac{3}{4}$	252	$2\frac{1}{2}$	×ι
*196	$1\frac{1}{4} \times 1 \times 1\frac{1}{2}$	222	$I^{1/2}$	\times 1	253	,	×1¼
197	1 ½ × 3/8	223	$I^{1/2}$	×1¼	254		X 1 ½
198	1 1/4 × 1/2	224	I 1/2	2	255	$2\frac{1}{2}$	\times_2
199	$1\frac{1}{4} \times \frac{3}{4}$	225	I 1/2	2×2	256	$2\frac{1}{2}$	
200	1 1/4 × 1	226	2	\times $\frac{1}{2} \times 2$	265	3	× 1 1/4
201	I 1/4	226 <u>1</u>	2	\times $\frac{3}{4} \times 2$	266	3	\times 1 ½
202	1 1/4 × 1 1/2	227	2	X I X 2	267	3	×2
202 1	$1\frac{1}{4}\times 2$	$227\frac{1}{2}$	2	× 1 1/4 × 1 1/4	268	3	$\times 2\frac{1}{2}$
*203	$I^{1/2} \times I^{1/2} \times I$	228	2	× 1 1/4 × 1 1/2 *	269	3	
204	$1\frac{1}{2} \times \frac{3}{8} \times 1\frac{1}{2}$	230	2	\times 1 $\frac{1}{4}$ \times 2	280		$\times 2\frac{1}{2}$
*205	$1\frac{1}{2}\times \frac{1}{2}\times 1\frac{1}{2}$	231	2	\times 1 $\frac{1}{2}$ \times 1 $\frac{1}{4}$	281	-	\times_3
207	$1\frac{1}{2} \times \frac{3}{4} \times 1\frac{1}{2}$	232	2	\times 1 ½ \times 1 ½	282	$3\frac{1}{2}$	
*210	$I^{1/2} \times I \times I$	233	2	\times 1 ½ \times 2	293	4	\times_3
*211	$1\frac{1}{2}\times 1 \times 1\frac{1}{4}$	234	2	× 3/8	294	4	$\times 3\frac{1}{2}$
2 I 2	$1\frac{1}{2}\times 1 \times 1\frac{1}{2}$	235	2	\times $\frac{1}{2}$	295	4	



CROSSES.



The outlets of a cross are always the same size.

No.		No.		No.	
*305	1/4	*317	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	Ų	1/2
	3/8 × 1/4	*319	$\frac{1}{2} \times \frac{1}{4}$		$3/4 \times 3/8 \times 1/2$
313	3/8	*320	$\frac{1}{2} \times \frac{3}{8}$	*330	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$
*316	1/2 × 3/8 × 1/4				

CROSSES.—Continued.

No.		No.	No.	
*331	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	360 1½;	× 3/8 380	$2 \times \frac{3}{4}$
334	$\frac{3}{4} \times \frac{3}{8}$	361 11/4	× ½ 381	2 × I
335	$\frac{3}{4} \times \frac{1}{2}$	362 11/4)	\times $\frac{3}{4}$ 382	2 × 1 1/4
336	3/4	363 11/4)	× 1 383	2 × 1 ½
*340	$I \times \frac{1}{2} \times \frac{3}{8}$	364 1 1/4	384	2
*345	$1 \times \frac{3}{4} \times \frac{3}{8}$	*368 1½	×1¼×1¼ 388	$2\frac{1}{2} \times 1\frac{1}{2}$
*346	$1 \times \frac{3}{4} \times \frac{1}{2}$	*369 11/2	× ¾ 390	$2\frac{1}{2}\times 2$
*347	$1 \times \frac{3}{4} \times \frac{3}{4}$	370 1 1/2 3	X ½ 391	2 1/2
350	1 × 3/8	371 11/2	\times $\frac{3}{4}$ 392	3×2
351	I X ½	372 1 1/2 3	× 1 393	$3 \times 2\frac{1}{2}$
352	$1 \times \frac{3}{4}$	373 1½	× 1 1/4 394	3
353	I	374 11/2	396	3 ½
*357	$1\frac{1}{4} \times 1 \times \frac{3}{4}$	*379 2	$\times \frac{1}{2}$ 397	4
*358	$1 \frac{1}{4} \times 1 \times 1$			

DROP ELBOWS.



Female.

No.	Drop.	No.	Drop.	No.	Drop.
402	$\frac{1}{4} \times \frac{1}{4}$	404	$\frac{3}{8} \times \frac{3}{8}$	407	$\frac{3}{4} \times \frac{1}{2}$
403	$3/8 \times \frac{1}{4}$	406	$\frac{1}{2} \times \frac{1}{2}$	408	$\frac{3}{4} \times \frac{3}{4}$



Male and Female.

411	1/8 × 3/8	414	$3/8 \times 3/8$.115	$\frac{1}{2} \times \frac{3}{8}$
413	1/4 × 3/8				

DROP ELBOWS .- Continued.



With long Outlet piece.

No. Drop. 422 3/8 × 3/8

No. Drop. 423 4×3/8



Flange right side.



Flange left side.

DROP TEES.



Female.

			,		
No.	Drop.		Drop.	No.	Drop.
447	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	454	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	461	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$
	3/8×3/8×1/4	455	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	462	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$
	3/8 × 3/8 × 3/8		$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$	463 I	\times $\frac{3}{4} \times \frac{3}{8}$
	$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$		$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	466 r	×1 ×3/8
	1/2 × 3/8 × 3/8		$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4}$	467 r	\times I \times ½
	1/2 × 1/2 × 1/4		$3/4 \times 3/4 \times 3/8$	·	



Male and Female

		141	are and remaie.		
471	1/4 × 1/4 × 3/8		$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$		$1 \times \frac{3}{4} \times \frac{3}{8}$
472	$3/8 \times \frac{1}{4} \times \frac{3}{8}$		$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$		1 ×1 ×3/8
473	$3/8 \times 3/8 \times 3/8$	477	$3/4 \times 3/4 \times 3/8$	480	3/8 × 3/8 × 3/8
474	$1\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$				Drop 2½ inch long.

CAPS.

No.		
486	1/4	
487	3/8	
488	1/2	
489	3/4	
490	I	



No.
49 I I 1/4
49 2 I 1/2
49 3 2
49 4 2 1/2

PLUGS.

No.	
503	¹ ⁄ ₄
504	3/8
505	$\frac{1}{2}$
506	3/4



No.
507 I
508 I 1/4
509 I 1/2
510 2

REDUCING COUPLINGS.



No.		No.	No.	
519	¼×½	$529 1\frac{1}{4} \times \frac{1}{2}$	538	2 × 1 ½
520	3/8×1/8	530 1 ¹ / ₄ × 3/ ₄	539	$2\frac{1}{2}\times I$
521	$\frac{3}{8} \times \frac{1}{4}$	531 1½×1	540	$2\frac{1}{2} \times 1\frac{1}{4}$
522	$\frac{1}{2} \times \frac{1}{4}$	$531\frac{1}{2}$ $1\frac{1}{2} \times \frac{1}{2}$	541	$2\frac{1}{2} \times 1\frac{1}{2}$
523	$\frac{1}{2} \times \frac{3}{8}$	$532 1\frac{1}{2} \times \frac{3}{4}$	542	2 1/2 × 2
$523\frac{1}{2}$	$\frac{3}{4} \times \frac{1}{4}$	533 $1\frac{1}{2}\times 1$	543	3 × 1
524	$\frac{3}{4} \times \frac{3}{8}$	534 1½×1¼	544	$3 \times 1\frac{1}{4}$
525	$\frac{3}{4} \times \frac{1}{2}$	$535 \ ^{2} \times \frac{3}{4}$	545	$3 \times 1\frac{1}{2}$
526	I × 3/8	536 2 ×1	546	3 ×2
527	I × ½	537 2 × 1 1/4	547	$3 \times 2\frac{1}{2}$
528	$1 \times \frac{3}{4}$			

EXTENSION PIECES.



Male and Female.

No. 561 3/8×3/8

COUPLINGS.

No.			No.	
57 I	1/4		575	1
572	3/8		576	1 1/4
573	1/2	Commission and Commission and Commission of	577	$\mathbf{I}_{2}^{\mathbf{I}_{2}}$
574	3/4	Right and Left.	578	2
5 ⁸ 7	1/8		592	I
588	1/4		• •	1 1/4
•			593	
589	3/8		594	112
590	$\frac{1}{2}$		595	2
591	3/4	Right Hand.		

LOCKNUTS.

No.			No.	
601	1/4	The state of the s	606	1 1/4
602	3/8		607	1 1/2
603	1/2		608	2
604	3/4		609	2 1/2
605	1	TOTO OF THE PARTY	610	3

STRAPS.

No.			No.	
614	1/4		617	3/4
615			618	I
616		Tinned		

WASTE NUTS.

No.			No.	
625	1/4		628	$\frac{3}{4}$
625 626	3/8		629	I
627	1/2	Tinned.		

633 1/4



CHANDELIER HOOKS.



No.	
636	3/8
637	$\frac{1}{2}$

No.	
638	3/8
639	1/2

GAS COCK WRENCHES.



No. 645. 8 sizes, to fit Gas Cocks, 1/4 in. to 2 in.

RETURN BENDS.



Open Pattern.

No.	
660	12
166	3/4
662	I
663	11/





Close Pattern.

No.	
666	12
667	3,4
668	

No.
669 1/4
670 11/2
671 2

A FULL ASSORTMENT OF

GALVANIZED AND ENAMELED FITTINGS,

From Steam Patterns (unless otherwise ordered), always in stock.

PIPE CYPHER

ADOPTED BY

Walworth Manufacturing Company,

BOSTON, MASS.

For the convenience of their customers when ordering by Telegraph.

Number of Feet.		S1ZE.	Black.	Size.	Galvanized.
100	Asia.	1/8	Alleghany.	1/4	Amazon.
200	Belgium.	1/4	Baltimore.	3/8	Bay.
300	Chili.	3/8	Camden.	1/2	Colorado.
100	Denmark.	1/2	Detroit.	3/4	Danube.
500	Egypt.	3/4	Erie.	I	Elbe.
600	France.	I	Fairmount.	1 1/4	Firth.
700	Germany.	1 1/4	Galena.	1,12	Ganges.
800	Holland.	112	Harrisburg.	2	Hudson.
900	Ireland.	2	Ithaca.	2 1 2	Indus.
1,000	Japan.	2 1 2	Jamestown.	3	Juniata.
2,000	Kentucky.	3	Kensington.	3.16	Kanawha.
3,000	Liberia.	3.12	Lancaster.	4	Lake.
4,000	Maine.	4	Macon.	5	Nile.
5,000	N evada.	5	Newark.	6	Osage.
6,000	Ohio.	6	Oneida.		
7,000	Peru.	7	Paris.		
8,000	Russia.	S	Reading.		
9,000	Spain.	9	Salem.		
10,000	Texas.	10	Troy.		

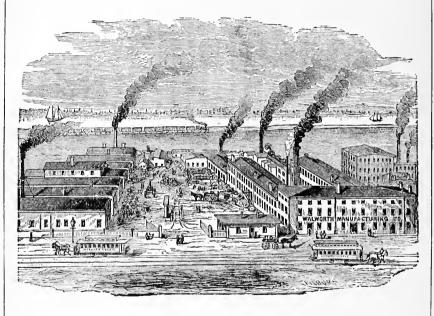
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OF THE

WALWORTH MANUFACTURING COMPANY,

CAMBRIDGEPORT, MASS.



CONSISTING OF

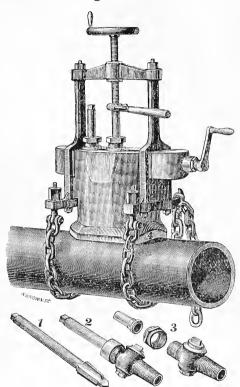
BRASS AND IRON FOUNDRIES,

AND MACHINE SHOPS.

MILLER'S TAPPING MACHINE.

(Patented Nov. 21, 1876.)

Fig. 626.



or Water off.

Circulars giving particulars mailed upon application.

This Machine is for Tapping Street Mains, under pressure, or without shutting the Gas

SIZES:

No. 1, Machine for $\frac{3}{6}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch Cocks. " 2, " " $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and I " $\frac{1}{4}$, $\frac{1}{4}$, $\frac{1}{4}$ and 2 "

PRICES:

No. 1, Machine with Drill, Tap and Rubbers, \$125.00
" 2, " " " " 150.00
" 3, " " " 200.00

GLYNN'S PATENT WRENCH.

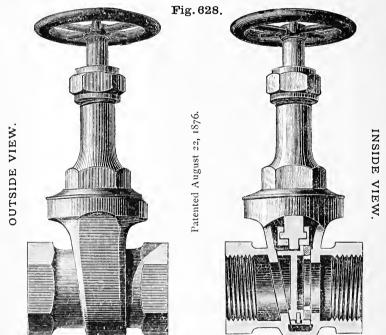
Fig. 627.



The Fine Tooth Wrench is especially adapted for Connecting Steam and Gas Pipes. The Coarse Tooth Wrench is better adapted for Bolts, Nuts, Studs, &c.

Length Open in Inches,	6	8	10	1.4	18	24	36
Takes from	to	to	to	¼ in. wire to 1½ in. pipe.	to	to	½ in. pipe to 3½ in. pipe.
Price,	1.75	2.00	2.25	3.00	4.00	6.00	12.00

THE JENKINS STRAIGHTWAY VALVE.

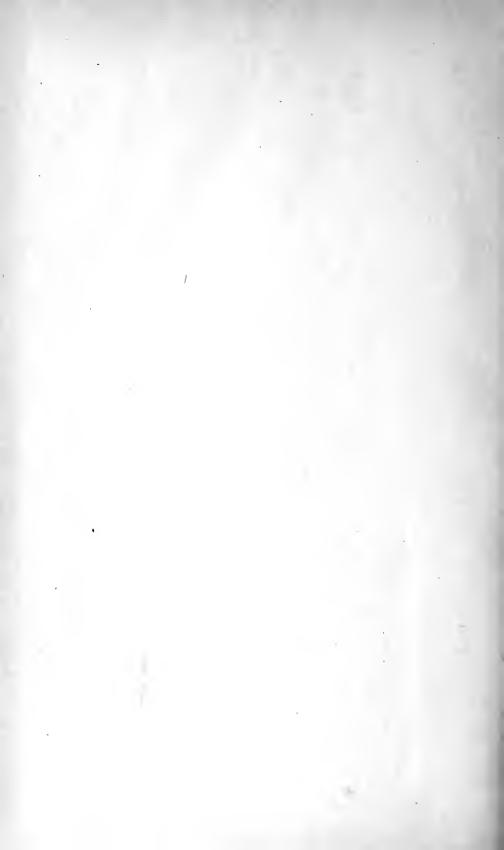


These Valves have the following advantages over other Straightway Valves: 1st. — It does not depend on a metallic disc for a joint, but uses our compressible packing.

2nd. - As the disc of packing wears, the inclined follower (or metal seat) keeps the disc to its seat, making a perfect joint.

3rd. — Should the disc give out at any time it can be replaced at a small cost. 4th. — It does not have to be removed from the pipes to repair.







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